

EXHIBIT 4

Confidential - John J. Godleski, M.D.

Page 1

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MISSOURI
EASTERN DIVISION

MICHAEL BLAES,

Plaintiff,

v.

Case No.

4:14-cv-00213-RLW

JOHNSON & JOHNSON, et al,

Defendants.

CONFIDENTIAL

DEPOSITION OF JOHN J. GODLESKI, M.D.

Wednesday, May 27th, 2015

9:00 a.m.

Held At:

Harvard School of Public Health
665 Huntington Avenue
Boston, Massachusetts

REPORTED BY:

Maureen O'Connor Pollard, RMR, CLR, CSR

Confidential - John J. Godleski, M.D.

Page 2	Page 4
<p>1 APPEARANCES:</p> <p>2 FOR THE PLAINTIFF:</p> <p>3 R. ALLEN SMITH, ESQ.</p> <p>4 THE SMITH LAW FIRM, PLLC</p> <p>5 681 Towne Center Blvd., Suite B</p> <p>6 Ridgeland, Mississippi 39157</p> <p>7 601-952-1422</p> <p>8 allen@smith-law.org</p> <p>9 -and-</p> <p>10 WILLIAM W. BLAIR, ESQ.</p> <p>11 ONDER, SHELTON, O'LEARY & PETERSON LLC</p> <p>12 110 E. Lockwood</p> <p>13 St. Louis, Missouri 63119</p> <p>14 314-963-9000</p> <p>15 blair@onderlaw.com</p> <p>16</p> <p>17 FOR THE DEFENDANT JOHNSON & JOHNSON:</p> <p>18 HUNTER K. AHERN, ESQ.</p> <p>19 SHOOK, HARDY & BACON LLP</p> <p>20 JPMorgan Chase Tower</p> <p>21 600 Travis Street</p> <p>22 Houston, Texas 77002</p> <p>23 713-227-8008</p> <p>24 hahern@shb.com</p>	<p>1 INDEX</p> <p>2 EXAMINATION PAGE</p> <p>3 JOHN J. GODLESKI, M.D.</p> <p>4 BY MR. FERGUSON 6</p> <p>5 BY MS. AHERN 167</p> <p>6 BY MR. FERGUSON 198</p> <p>7 BY MR. SMITH 204</p> <p>8 BY MR. FERGUSON 208</p> <p>9 BY MS. AHERN 209</p> <p>10</p> <p>11</p> <p>12 E X H I B I T S</p> <p>13 NO. DESCRIPTION PAGE</p> <p>14 1 Dr. Godleski's Curriculum Vitae..... 8</p> <p>15 2 Amended Notice to take Oral</p> <p>Deposition..... 9</p> <p>16</p> <p>17 3 Dr. Godleski's April 3, 2015</p> <p>Expert Report..... 10</p> <p>18 4 Pathology Report from St. Mary's</p> <p>Health Center, 1/4/15..... 10</p> <p>19</p> <p>20 5 Document titled Case EDS Analysis</p> <p>Report for S08-8716N, 4/1/2015..... 11</p> <p>21 6 Three pages of billing information... 12</p> <p>22 7 Case List of Testimony..... 14</p> <p>23 8 1/21/15 letter..... 18</p> <p>24 9 4/20/15 e-mail..... 19</p>
Page 3	Page 5
<p>1 FOR THE DEFENDANT IMERYS:</p> <p>2 KENNETH J. FERGUSON, ESQ.</p> <p>3 GORDON, REES, SCULLY, MANSUKHANI, LLP</p> <p>4 816 Congress Avenue, Suite 1510</p> <p>5 Austin, Texas 78701</p> <p>6 512-391-0197</p> <p>7 kferguson@gordonrees.com</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p>	<p>1</p> <p>2 10 4/29/15 letter from Dr. Godleski..... 20</p> <p>3</p> <p>4 11 All blocks studied under scanning</p> <p>electron microscope..... 21</p> <p>5 12 Blocks not studied under scanning</p> <p>electron microscope..... 22</p> <p>6</p> <p>7 13 Disk containing all data from</p> <p>microscopy..... 25</p> <p>8 14 Dr. Godleski's bio from the School</p> <p>of Public Health website..... 27</p> <p>9</p> <p>10 15 Cramer, et al article titled</p> <p>Presence of Talc in Pelvic Lymph</p> <p>Nodes of a Woman With Ovarian</p> <p>Cancer and Long-term Genital</p> <p>Exposure to Cosmetic Talc..... 69</p> <p>11</p> <p>12 16 Henderson, et al article titled</p> <p>Talc and Carcinoma of the Ovary</p> <p>and Cervix.....143</p> <p>13</p> <p>14 17 Document titled Cancer Myths,</p> <p>Talcum Powder and Cancer, from the</p> <p>Cancer Council of Western</p> <p>Australia.....152</p> <p>15 18 Printout titled Ovarian Cancer</p> <p>Treatment from Brigham & Women's</p> <p>Hospital website.....154</p> <p>16</p> <p>17 **EXHIBITS 11 AND 12 RETAINED BY WITNESS**</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p>

2 (Pages 2 to 5)

Confidential - John J. Godleski, M.D.

Page 6	Page 8
<p>1 PROCEEDINGS</p> <p>2</p> <p>3 JOHN J. GODLESKI, M.D.,</p> <p>4 having been first duly identified and sworn, was</p> <p>5 examined and testified as follows:</p> <p>6 DIRECT EXAMINATION</p> <p>7 BY MR. FERGUSON:</p> <p>8 Q. Would you state your full name for the</p> <p>9 record, please?</p> <p>10 A. John Godleski.</p> <p>11 Q. And what is your business address,</p> <p>12 Doctor?</p> <p>13 A. 665 Huntington Avenue, Boston,</p> <p>14 Massachusetts.</p> <p>15 Q. And who are you employed by?</p> <p>16 A. I'm employed by Brigham & Women's</p> <p>17 Hospital Physicians Organization, and Harvard</p> <p>18 School of Public Health at Harvard University.</p> <p>19 Q. And the building we're in is 665</p> <p>20 Huntington, which is the Harvard School of</p> <p>21 Public Health?</p> <p>22 A. That's correct.</p> <p>23 Q. You have given a deposition before,</p> <p>24 correct?</p>	<p>1 report that you've rendered. Make sure you</p> <p>2 understand what I'm asking. If you don't</p> <p>3 understand my question, which is entirely</p> <p>4 possible in this context, let me know and I'll</p> <p>5 restate the question so we can make sure we're</p> <p>6 communicating properly. Okay?</p> <p>7 A. Okay.</p> <p>8 Q. Also make sure you answer everything</p> <p>9 out loud so it can be taken down by the</p> <p>10 reporter, who can't take down body language, or</p> <p>11 at least it forms a challenge for her. All</p> <p>12 right?</p> <p>13 A. Yes.</p> <p>14 Q. Have you brought documents relating to</p> <p>15 this case with you today?</p> <p>16 A. Yes.</p> <p>17 Q. Can we just go through those so we</p> <p>18 know what we have? It's a little tedious, but</p> <p>19 that way we'll at least have them identified for</p> <p>20 the record.</p> <p>21 A. Okay. There's my CV.</p> <p>22 Q. All right.</p> <p>23 (Whereupon, Godleski Exhibit Number 1,</p> <p>24 Dr. Godleski's Curriculum Vitae, was</p>
Page 7	Page 9
<p>1 A. Yes.</p> <p>2 Q. On about how many occasions?</p> <p>3 A. Maybe 20.</p> <p>4 Q. And have those been -- let me try to</p> <p>5 break those down a little bit.</p> <p>6 How many of those have been as an</p> <p>7 expert witness in which you've been retained in</p> <p>8 a case similar to this one, just an estimate?</p> <p>9 A. Probably a half to two-thirds.</p> <p>10 Q. And then the remainder are in what</p> <p>11 circumstance; as a treating physician?</p> <p>12 A. Treating physician.</p> <p>13 Q. So you obviously know the rules and</p> <p>14 how these things go with that experience, but</p> <p>15 let me just go over a couple of things.</p> <p>16 My name is Ken Ferguson, I represent</p> <p>17 Imerys, and Ms. Ahern represents Johnson &</p> <p>18 Johnson.</p> <p>19 Do you understand that?</p> <p>20 A. Yes. What's Imerys?</p> <p>21 Q. Another Defendant in this case.</p> <p>22 A. Okay.</p> <p>23 Q. I'll be asking you some questions</p> <p>24 regarding your opinions in this case and your</p>	<p>1 marked for identification.)</p> <p>2 BY MR. FERGUSON:</p> <p>3 Q. I have marked as Exhibit 1 to your</p> <p>4 deposition your CV. And is this more or less a</p> <p>5 current CV?</p> <p>6 A. Yes.</p> <p>7 Q. It looks like it's dated April 25th,</p> <p>8 so very recent, right?</p> <p>9 A. That's correct.</p> <p>10 Q. Let's see what else you have, please.</p> <p>11 A. Notice of the deposition.</p> <p>12 Q. All right. I guess just to be</p> <p>13 complete, I'll mark that even though I already</p> <p>14 have one, but we have it in case we need it.</p> <p>15 (Whereupon, Godleski Exhibit Number 2,</p> <p>16 Amended Notice to take Oral</p> <p>17 Deposition, was marked for</p> <p>18 identification.)</p> <p>19 A. Okay. My expert report.</p> <p>20 BY MR. FERGUSON:</p> <p>21 Q. This is your expert report in the</p> <p>22 Blaes matter, correct?</p> <p>23 A. That's correct.</p> <p>24 Q. Dated April 3, 2015. Marking that as</p>

3 (Pages 6 to 9)

Confidential - John J. Godleski, M.D.

Page 10	Page 12
<p>1 Exhibit 3. 2 (Whereupon, Godleski Exhibit Number 3, 3 Dr. Godleski's April 3, 2015 Expert 4 Report, was marked for 5 identification.) 6 A. This is the pathology report on 7 Ms. Blaes from the hospital where the surgery 8 was done. 9 MR. FERGUSON: So pathology report 10 from St. Mary's Health Center is marked as 11 Exhibit 4. 12 (Whereupon, Godleski Exhibit Number 4, 13 Pathology Report from St. Mary's 14 Health Center, 1/4/15, was marked for 15 identification.) 16 A. This is the summary of materials that 17 are included in the report, as well as discussed 18 in the report, so that where we have examples of 19 -- where I have one example, I have six in 20 there, and so it's a little more complete in 21 terms of the findings. 22 BY MR. FERGUSON: 23 Q. All right. When you said "this," 24 that's entitled "Case EDS Analysis Report for</p>	<p>1 when you say a talc signal, what do you consider 2 a talc signal in that context? 3 A. Magnesium silicon in the proper 4 proportions. 5 Q. All right. We'll come back to that. 6 What else do you have, sir? 7 A. I have the billing for doing that 8 work. 9 MR. FERGUSON: And I'm going to mark 10 as Exhibit 6 your billing information. 11 (Whereupon, Godleski Exhibit Number 6, 12 Three pages of billing information, 13 was marked for identification.) 14 A. Actually I have two copies of this. 15 It's the same thing. That is the -- my lab 16 billing, what we provide if somebody asks "what 17 do you charge." 18 BY MR. FERGUSON: 19 Q. All right. And is it okay with you if 20 I just include in Exhibit 6 these four pages of 21 billing information? 22 A. That's fine. 23 Q. And just -- 24 A. And one of them is just a duplicate,</p>
Page 11	Page 13
<p>1 S08-8716N," correct? 2 A. That's correct. 3 Q. And that's marked as Exhibit 5 to your 4 deposition. 5 (Whereupon, Godleski Exhibit Number 5, 6 Document titled Case EDS Analysis 7 Report for S08-8716N, 4/1/2015, was 8 marked for identification.) 9 BY MR. FERGUSON: 10 Q. And let me just understand what this 11 is a little bit more. 12 So as I recall, in your report, which 13 we'll talk about later, you specifically discuss 14 and have a spectrum from one particle that you 15 looked at, correct? 16 A. That's correct. 17 Q. Is this for that particle only, or 18 does it include the other particles? 19 A. This has all six particles that are 20 primarily -- that are exclusively talc, and it 21 has examples of particles that were in the other 22 33 that included a talc signal plus other 23 materials. 24 Q. And we'll get into this later, but</p>	<p>1 so you may want to have only three, and we 2 can -- 3 Q. You're right. I've turned Exhibit 6 4 into a three page document instead of four. 5 A. I can put this back. 6 Q. Now, if you wouldn't mind, let me 7 follow up a little bit on this. 8 Exhibit 6 is entitled "Billing for 9 Case Analysis for SEM Work." Does this include 10 all of your time that you have put in, or is 11 there another -- would there be other billings 12 that you either have invoiced or will invoice 13 for other than SEM work? 14 A. Let me just look at that. 15 Q. Certainly (handing). 16 A. At this point, this has everything 17 that has been billed on this case. And going 18 forward, the additional billings will be 19 collecting the materials for this deposition, 20 and this deposition itself. 21 Q. Okay. And any estimate as to how many 22 hours, approximately, you have put in that is 23 not included on Exhibit 6 up to the time we 24 started this deposition?</p>

4 (Pages 10 to 13)

Confidential - John J. Godleski, M.D.

Page 14	Page 16
<p>1 A. Probably three, three hours or so, 2 four hours maybe. 3 Q. All right. Just an estimate. Okay. 4 Thank you, sir. 5 What else? 6 A. I have case list of testimony that I 7 provided when I gave my -- provided my expert 8 opinion. This was something that was asked for. 9 (Whereupon, Godleski Exhibit Number 7, 10 Case List of Testimony, was marked for 11 identification.) 12 BY MR. FERGUSON: 13 Q. All right. So Exhibit 7 looks like 14 it's between 2011 and 2015, and includes, it 15 looks like, three depositions and three in-court 16 testimony, correct? 17 A. That's correct. 18 Q. All right. Is there additional -- I 19 understand from what we talked about earlier in 20 terms of the number of depositions, there are 21 additional depositions that you have given, but 22 that would be before this five year or so 23 period, is that correct? 24 A. That's correct.</p>	<p>1 Q. Then DeGeorge versus Holden Oil 2 Company, that was in-court testimony, what was 3 the issue in general in that case, please? 4 A. The issue there was that the Plaintiff 5 was claiming that the oil company had not 6 properly maintained his oil burner, causing soot 7 to come back into the house, and the oil company 8 said that he was told to cut trees overhanging 9 his chimney, which he never did. And then the 10 amount of dust that was actually found in his 11 house was commensurate with the house's location 12 next to an expressway. And his children, in 13 fact, were examined fully at Children's Hospital 14 and found not to have any pulmonary disease, not 15 to have any demonstrable effects of any 16 exposure. 17 And so I was testifying as -- in 18 regard to my environmental expertise with 19 exposure, both within the house, as well as in 20 the environment surrounding the house. 21 Q. And you were a retained expert in that 22 case? 23 A. I was a retained expert in that case 24 by the defense.</p>
Page 15	Page 17
<p>1 Q. I guess while I have it here, so I 2 don't forget, Budke, B-U-D-K-E, versus Ethicon 3 where you gave a deposition and in-court 4 testimony, that's a transvaginal mesh case, is 5 that correct? 6 A. That's correct. But from my 7 perspective it was a lung pathology case, and 8 that was what I was there to testify to. 9 Q. Okay. 10 A. The mesh issues initiated the problem, 11 but the cause of death were pulmonary, so I was 12 there as a pulmonary pathologist. 13 Q. And your testimony related to a 14 pulmonary embolism, is that correct? 15 A. No. That testimony related to the 16 fact that the patient had extensive pneumonia, 17 and the defense was claiming that the patient 18 had Wegener's granulomatosis, which as a 19 pulmonary pathologist I was well-qualified to 20 testify that that wasn't there. 21 Q. Certainly the testimony in that case 22 was in your primary focus, which is pulmonary 23 issues, right? 24 A. That's correct.</p>	<p>1 Q. And going back to the Budke versus 2 Ethicon, there you were a retained expert for 3 the Plaintiff, is that correct? 4 A. That's correct. 5 Q. The next case that you have deposition 6 and in-court testimony is Berg versus Johnson & 7 Johnson, right? 8 A. That's correct. 9 Q. And then the fifth item on here is 10 Caldwell versus Rivers, which was deposition 11 testimony back in 2011. Can you tell us in 12 general what the issue was in that case? 13 A. I believe it was a lung cancer case, 14 and diagnosis of the lung cancer. But it was a 15 long time ago, and I may not recall the details 16 exactly. 17 Q. And do you recall whether -- was that 18 a medical malpractice case? 19 A. It was a medical malpractice case, and 20 it was a lung cancer issue. 21 Q. And were you retained in that case by 22 the Plaintiff, or the Defendant? 23 A. That case was the Defendant. 24 Q. So, and I know you have a vague</p>

5 (Pages 14 to 17)

Confidential - John J. Godleski, M.D.

Page 18	Page 20
<p>1 recollection, was that a treating physician</p> <p>2 then?</p> <p>3 A. No. I was a pathology expert. I</p> <p>4 believe in that case I ended up not testifying</p> <p>5 in court. I think I gave a deposition.</p> <p>6 Q. That's what it says.</p> <p>7 A. Okay. Yeah, I don't remember much</p> <p>8 about it.</p> <p>9 Q. Okay.</p> <p>10 A. But that was in 2011, I believe, and</p> <p>11 that was within the window that I was asked to</p> <p>12 provide.</p> <p>13 Q. Understood.</p> <p>14 All right. Tell us what else you</p> <p>15 have, please.</p> <p>16 A. This is the sheet that came with the</p> <p>17 slides that I received that was provided by the</p> <p>18 office that received them and sent them on to</p> <p>19 me.</p> <p>20 (Whereupon, Godleski Exhibit Number 8,</p> <p>21 1/21/15 letter, was marked for</p> <p>22 identification.)</p> <p>23 BY MR. FERGUSON:</p> <p>24 Q. All right. And that's Exhibit 8. And</p>	<p>1 that we studied. They are still on scanning</p> <p>2 electron microscopy mounts.</p> <p>3 And if I can put this in context for a</p> <p>4 moment, previously we used to put the sections</p> <p>5 on carbon planchets, and now we're using a new</p> <p>6 technique where we just use the variable</p> <p>7 pressure function on our microscope, and that</p> <p>8 allows us to put the paraffin block into the</p> <p>9 microscope with no chance of essentially</p> <p>10 vaporizing paraffin into the microscope and</p> <p>11 contaminating the microscope. So we've gone to</p> <p>12 looking directly at the surface of the block</p> <p>13 after we've cleaned that, and we describe that</p> <p>14 in the report.</p> <p>15 But these are now much more easily</p> <p>16 handled specimens, and so I could mail them, I</p> <p>17 could give them to you afterwards. A lawyer</p> <p>18 doesn't have to come specifically to my office</p> <p>19 to take them as they had in the Berg case, for</p> <p>20 example.</p> <p>21 Q. You'd probably rather avoid lawyers</p> <p>22 coming to your office anyway, right?</p> <p>23 (Whereupon, Godleski Exhibit Number</p> <p>24 10, 4/29/15 letter from Dr. Godleski,</p>
Page 19	Page 21
<p>1 that's on the letterhead of a law firm</p> <p>2 enclosing, it says, pathology reports along with</p> <p>3 slides and blocks, correct?</p> <p>4 A. That's correct.</p> <p>5 Q. And we'll talk in a minute about where</p> <p>6 those are currently.</p> <p>7 A. Okay. And here's an e-mail directing</p> <p>8 me what to do with the slides.</p> <p>9 And here's a cover letter that says</p> <p>10 what I did with the slides, and that they were</p> <p>11 transferred to that law firm to be transferred</p> <p>12 to another law firm.</p> <p>13 (Whereupon, Godleski Exhibit Number 9,</p> <p>14 4/20/15 e-mail, was marked for</p> <p>15 identification.)</p> <p>16 BY MR. FERGUSON:</p> <p>17 Q. So Exhibit 9 is the e-mail you</p> <p>18 referred to to you indicating where you should</p> <p>19 send the 32 pathology slides.</p> <p>20 A. That's correct. So I no longer have</p> <p>21 those slides in my possession.</p> <p>22 I still have the blocks. And here are</p> <p>23 the blocks that were provided to me that we</p> <p>24 didn't further study. And these are the blocks</p>	<p>1 was marked for identification.)</p> <p>2 BY MR. FERGUSON:</p> <p>3 Q. Let me mark as Exhibit 10 the letter</p> <p>4 you described, which is a letter from you to</p> <p>5 Kathleen Frazier, correct?</p> <p>6 A. That's correct.</p> <p>7 Q. Then we can talk about what to do --</p> <p>8 let me just mark these, and then we can talk</p> <p>9 about what to do with them.</p> <p>10 (Whereupon, Godleski Exhibit Number</p> <p>11 11, All blocks studied under scanning</p> <p>12 electron microscope, was marked for</p> <p>13 identification.)</p> <p>14 BY MR. FERGUSON:</p> <p>15 Q. Can I have the little plastic box</p> <p>16 there?</p> <p>17 A. Okay. And this is sealed with tape,</p> <p>18 we don't want to open that because we're</p> <p>19 avoiding any contamination.</p> <p>20 Q. I don't even plan to touch it, other</p> <p>21 than to stick this exhibit sticker on it.</p> <p>22 A. Okay.</p> <p>23 Q. So Exhibit 11 to your deposition,</p> <p>24 again tell us briefly what that is.</p>

6 (Pages 18 to 21)

Confidential - John J. Godleski, M.D.

Page 22	Page 24
<p>1 A. This is a sealed box containing the</p> <p>2 paraffin blocks that we studied in the scanning</p> <p>3 electron microscope.</p> <p>4 Q. Then on -- would you mind putting that</p> <p>5 Exhibit 12 on the -- why don't we do them</p> <p>6 separately. Or do you want to do them the same?</p> <p>7 A. I can put this inside this bag, and</p> <p>8 then that will make it simpler. And the reason</p> <p>9 the one block is in a separate bag was I</p> <p>10 initially separated out all of these blocks that</p> <p>11 were in this bag to be studied by a CM. This</p> <p>12 block wasn't. Those blocks were prepared and</p> <p>13 studied, this block never was, because we found</p> <p>14 more than enough.</p> <p>15 Q. And let me just clarify that for the</p> <p>16 record.</p> <p>17 Exhibit 11 includes all the blocks you</p> <p>18 actually studied under the scanning electron</p> <p>19 microscope, correct?</p> <p>20 A. Either studied, or were prepared to be</p> <p>21 studied.</p> <p>22 (Whereupon, Godleski Exhibit Number</p> <p>23 12, Blocks not studied under scanning</p> <p>24 electron microscope, was marked for</p>	<p>1 found most of the findings.</p> <p>2 Q. Okay. Why don't you just -- I don't</p> <p>3 want to mess with those. Why don't you set</p> <p>4 those aside in a place you're comfortable with.</p> <p>5 A. Let's put them back in here.</p> <p>6 Okay. And the last thing that I have</p> <p>7 is this CD, which has on it all the data from</p> <p>8 the microscopy, has all the polarized light</p> <p>9 pictures that I took that are not included in</p> <p>10 the report. I have an example in the report.</p> <p>11 It has all the studies that we did. You'll see</p> <p>12 that we did over 300 analyses, and we -- in the</p> <p>13 report I describe how each of those are -- what</p> <p>14 the findings of each of those are.</p> <p>15 And this disk then has the more than</p> <p>16 300 analyses that we did documenting all the</p> <p>17 endogenous particulate that we found, as well as</p> <p>18 the foreign material that we found in this case.</p> <p>19 So if anybody wants to look at this in all its</p> <p>20 detail, it's all provided there.</p> <p>21 Q. And that -- the disk you're talking</p> <p>22 about we've marked as Exhibit 13, correct?</p> <p>23 A. That's correct.</p> <p>24</p>
Page 23	Page 25
<p>1 identification.)</p> <p>2 BY MR. FERGUSON:</p> <p>3 Q. All right. Fair enough.</p> <p>4 And Exhibit 12 includes blocks that</p> <p>5 were not studied under the SEM, correct?</p> <p>6 A. That's correct.</p> <p>7 I just wanted to make sure that's, in</p> <p>8 fact, what it was, and I hadn't made an error</p> <p>9 and had another block there. And these were all</p> <p>10 together, so they're correct.</p> <p>11 Q. And Exhibit 12 that we've placed the</p> <p>12 exhibit sticker on is in a Ziploc bag that's</p> <p>13 labeled "Biohazard" and has other information on</p> <p>14 it, correct?</p> <p>15 A. That's correct.</p> <p>16 Q. And within the bag there are a number</p> <p>17 of blocks, and then there's also another Ziploc</p> <p>18 bag with a single block in it. And tell me</p> <p>19 again what the significance of the one separate</p> <p>20 block in the separate Ziploc bag was?</p> <p>21 A. That was another block that had been</p> <p>22 found to have material on polarized light but</p> <p>23 wasn't further studied. And, in fact, most of</p> <p>24 the studies were done on one block where we</p>	<p>1 (Whereupon, Godleski Exhibit Number</p> <p>2 13, Disk containing all data from</p> <p>3 microscopy, was marked for</p> <p>4 identification.)</p> <p>5 BY MR. FERGUSON:</p> <p>6 Q. Would Exhibit 13 include the various</p> <p>7 spectra for these analyses that were done?</p> <p>8 A. Includes every picture, every spectra,</p> <p>9 every stage location. You name it, it's there.</p> <p>10 MR. FERGUSON: Why don't we take a</p> <p>11 quick break for a second.</p> <p>12 (Off the record discussion.)</p> <p>13 (Attorney Blair now present.)</p> <p>14 BY MR. FERGUSON:</p> <p>15 Q. I think you were just explaining</p> <p>16 something else regarding the documents. Go</p> <p>17 ahead, Doctor.</p> <p>18 A. I believe these are all the materials</p> <p>19 and documents that I have pursuant to the notice</p> <p>20 of deposition today --</p> <p>21 Q. All right.</p> <p>22 A. -- where I'm asked for a large number</p> <p>23 of things, and of those things, this is what I</p> <p>24 have.</p>

Confidential - John J. Godleski, M.D.

Page 26	Page 28
<p>1 Q. Is there anything else, Dr. Godleski,</p> <p>2 that you have reviewed and perhaps not retained</p> <p>3 a copy of with regard to this case?</p> <p>4 A. Not that I can think of.</p> <p>5 Q. Other than Exhibit 4, which is a</p> <p>6 pathology report from St. Mary's Health Center,</p> <p>7 have you reviewed any other medical records</p> <p>8 regarding Shaun Blaes?</p> <p>9 A. No.</p> <p>10 Q. Okay. As we discussed earlier, we're</p> <p>11 here at the School of Public Health, correct?</p> <p>12 A. That's correct.</p> <p>13 Q. And you work as a pathologist in the</p> <p>14 department of environmental health, is that</p> <p>15 correct, or did I state that wrong?</p> <p>16 A. I would say that in my role here I'm a</p> <p>17 physician scientist. I have a electron</p> <p>18 microscopy lab here at the school, it's the only</p> <p>19 one in the school. I do research here. I teach</p> <p>20 here. I teach graduate students. I have other</p> <p>21 responsibilities here that don't necessarily</p> <p>22 involve solely pathology, although my role at</p> <p>23 both institutions is very much interrelated.</p> <p>24 Q. Your title actually is associate</p>	<p>1 measurements with inhalation exposure, correct?</p> <p>2 So you're looking at inhalation exposure</p> <p>3 generally as your research focus?</p> <p>4 A. That's correct.</p> <p>5 Q. And in looking at your bio here from</p> <p>6 the School of Public Health, there's no mention</p> <p>7 in that bio that your research focuses on</p> <p>8 particles that are not inhaled through the air,</p> <p>9 correct?</p> <p>10 A. Well, you only get so many words. If</p> <p>11 you look at my CV, I think it outlines the full</p> <p>12 breadth of what I do.</p> <p>13 Q. Okay. Obviously we all have limited</p> <p>14 words, maybe lawyers not so much, but your bio</p> <p>15 and the words that you selected there certainly</p> <p>16 do not include any information that your</p> <p>17 research focuses on particles that are not</p> <p>18 inhaled through the air?</p> <p>19 A. It depends on what you look at. For</p> <p>20 example, if you look at the Harvard Catalyst, it</p> <p>21 describes my EM lab and my facilities and the</p> <p>22 role that I have in electron microscopy. This</p> <p>23 is the -- from the department of environmental</p> <p>24 health here, which has a focus on inhaled</p>
Page 27	Page 29
<p>1 professor of pathology, though, correct?</p> <p>2 A. That's correct.</p> <p>3 Q. And is it correct that your research</p> <p>4 focuses upon the pulmonary and systemic</p> <p>5 responses to inhaled ambient air particles?</p> <p>6 A. Most of my research focuses on that.</p> <p>7 (Whereupon, Godleski Exhibit Number</p> <p>8 14, Dr. Godleski's bio from the School</p> <p>9 of Public Health website, was marked</p> <p>10 for identification.)</p> <p>11 BY MR. FERGUSON:</p> <p>12 Q. And I didn't invent that phrase, I'm</p> <p>13 not saying you're saying anything inconsistent</p> <p>14 with this, but your bio off the website of the</p> <p>15 School of Public Health specifically says</p> <p>16 "Dr. Godleski's research focuses upon the</p> <p>17 pulmonary and systemic responses to inhaled</p> <p>18 ambient air particles," correct?</p> <p>19 A. That's correct.</p> <p>20 Q. And obviously pulmonary means lung,</p> <p>21 correct?</p> <p>22 A. That's correct.</p> <p>23 Q. And you indicate also in this that</p> <p>24 your studies use cardiac and pulmonary</p>	<p>1 particles and ambient environment, and so that's</p> <p>2 what's emphasized.</p> <p>3 Q. And there's certainly no mention in</p> <p>4 this bio that your research focuses on particles</p> <p>5 which enter the body through other means other</p> <p>6 than inhaled, correct?</p> <p>7 A. In this bio, that's correct.</p> <p>8 Q. And if I wanted to find a bio of you</p> <p>9 that talked about your research focusing on</p> <p>10 particles that enter the body through means</p> <p>11 other than inhalation, where would I find that</p> <p>12 bio?</p> <p>13 A. Well, Harvard Catalyst is one place.</p> <p>14 Within the department of pathology at Brigham &</p> <p>15 Women's Hospital, I'm known as the person to go</p> <p>16 to to identify foreign materials in tissue.</p> <p>17 I've looked at breast tissue, I've looked at</p> <p>18 perineal tissue, I've looked at tissues from</p> <p>19 literally all over the body, skin, as a way of</p> <p>20 identifying foreign materials from tissues. So</p> <p>21 it may not be something that's emphasized in the</p> <p>22 particular bio that you have, but certainly</p> <p>23 there's information out there if you look hard</p> <p>24 enough. And I'm not looking for business.</p>

8 (Pages 26 to 29)

Confidential - John J. Godleski, M.D.

Page 30	Page 32
<p>1 Q. Understood. Understood.</p> <p>2 Certainly there's no mention in the</p> <p>3 bio we looked at that you have a research focus</p> <p>4 on ovarian cancer, correct?</p> <p>5 A. That's correct.</p> <p>6 Q. Okay. And if I look at some of these</p> <p>7 other bios that you might have out there for</p> <p>8 Harvard, other than the one from the department</p> <p>9 of environmental health, I'm not going to find</p> <p>10 any mention that you have a research focus on</p> <p>11 ovarian cancer specifically, am I?</p> <p>12 A. I'm not sure.</p> <p>13 Q. You're not sure?</p> <p>14 A. No, I'm not sure. I don't go on-line</p> <p>15 and check all my bios.</p> <p>16 Q. Okay.</p> <p>17 A. Very often they're not even put</p> <p>18 together by me, they're put together by somebody</p> <p>19 else.</p> <p>20 Q. As you sit here, you're not aware of</p> <p>21 any bios that you have at Harvard that indicate</p> <p>22 you have a research focus on ovarian cancer, are</p> <p>23 you?</p> <p>24 A. No. That doesn't say they don't</p>	<p>1 been discussing that, correct?</p> <p>2 A. Yes.</p> <p>3 Q. But you're not a gynecologic</p> <p>4 pathologist, correct?</p> <p>5 A. That's correct.</p> <p>6 Q. There are pathologists who specialize</p> <p>7 in gynecologic pathology, correct?</p> <p>8 A. That's correct.</p> <p>9 Q. And you're not one of those?</p> <p>10 A. No.</p> <p>11 Q. You've been asked to look at</p> <p>12 gynecologic pathology maybe once or twice a year</p> <p>13 generally, is that right?</p> <p>14 A. It's become more frequent.</p> <p>15 Q. Okay. Over your years here at</p> <p>16 Harvard, one or two times a year, correct?</p> <p>17 A. Well, right now I'm looking at a lot</p> <p>18 more.</p> <p>19 Q. In connection with this litigation?</p> <p>20 A. In connection with litigation, in</p> <p>21 connection with studies with Dr. Cramer and</p> <p>22 Dr. Welch.</p> <p>23 Q. Some of which is litigation related?</p> <p>24 A. Some which is scientific related. I</p>
Page 31	Page 33
<p>1 exist.</p> <p>2 Q. I have looked, and I'll admit probably</p> <p>3 fairly quickly, at your list of publications, I</p> <p>4 think there was one on your CV that we've marked</p> <p>5 here. Other than the 2007 article that</p> <p>6 Dr. Cramer authored and you were listed as a</p> <p>7 co-author, is it true there were no other</p> <p>8 articles that you've authored or co-authored</p> <p>9 dealing with ovarian cancer, other than the 2007</p> <p>10 article with Dr. Cramer?</p> <p>11 A. That's correct.</p> <p>12 Q. Would it also be true that you don't</p> <p>13 have -- other than the 2007 article with</p> <p>14 Dr. Cramer, you have no other articles in your</p> <p>15 list of publications that deal with any</p> <p>16 gynecologic cancer?</p> <p>17 A. That's probably correct.</p> <p>18 Q. And would the same be true for any</p> <p>19 gynecologic disease, that you have no</p> <p>20 publications, other than the 2007 article we've</p> <p>21 referenced, that relate to any gynecologic</p> <p>22 disease?</p> <p>23 A. That's correct.</p> <p>24 Q. Obviously you're a pathologist, we've</p>	<p>1 would say what I'm looking at with them is more</p> <p>2 scientific related questions.</p> <p>3 Q. As a pathologist, you don't treat</p> <p>4 patients on a day-to-day basis?</p> <p>5 A. What do you mean by "treat patients"?</p> <p>6 Q. You don't see patients; you see their</p> <p>7 tissue, correct?</p> <p>8 A. That's correct.</p> <p>9 Q. You've never treated a woman for</p> <p>10 ovarian cancer, correct?</p> <p>11 A. That's correct.</p> <p>12 Q. You're not an epidemiologist, correct?</p> <p>13 A. That's correct.</p> <p>14 Q. There are people in the world who have</p> <p>15 advanced degrees in epidemiology, and you're not</p> <p>16 one of those. Fair enough?</p> <p>17 A. That's right.</p> <p>18 Q. And one of your appointments is at</p> <p>19 Brigham & Women's Hospital, correct?</p> <p>20 A. That's my primary appointment.</p> <p>21 Q. And if at Brigham & Women's Hospital</p> <p>22 they have a difficult diagnosis, a difficult</p> <p>23 issue regarding a diagnosis of the lung, you</p> <p>24 would be the person they typically come to,</p>

9 (Pages 30 to 33)

Confidential - John J. Godleski, M.D.

Page 34	Page 36
<p>1 right?</p> <p>2 A. That's correct.</p> <p>3 Q. But if the issue is a difficult</p> <p>4 diagnosis regarding the ovary, you're not the</p> <p>5 person that they would typically go to, correct?</p> <p>6 A. Well, it depends on what it is. If it</p> <p>7 had to do with foreign material there, I would</p> <p>8 definitely be the one that they would come to.</p> <p>9 On the other hand, if it was to identify an</p> <p>10 unusual tumor, I would not be the person they</p> <p>11 would come to.</p> <p>12 Q. There's another -- is there another</p> <p>13 doctor at Brigham & Women's whose primary</p> <p>14 expertise is gynecologic pathology?</p> <p>15 A. Probably about a dozen.</p> <p>16 Q. Again, that's not you? You're not</p> <p>17 gynecologic pathology?</p> <p>18 A. I do not include myself in that dozen.</p> <p>19 Q. You've been hired in this case by</p> <p>20 Mr. Smith and his colleagues to provide your</p> <p>21 opinion in this case, fair enough? To analyze</p> <p>22 information and provide an opinion?</p> <p>23 A. That's correct.</p> <p>24 Q. Including the writing of this report</p>	<p>1 A. Ask that again?</p> <p>2 Q. Sure. It kind of got out of hand</p> <p>3 there.</p> <p>4 Are you working on any other cases</p> <p>5 where you've been hired by attorneys regarding</p> <p>6 talc and ovarian cancer?</p> <p>7 A. Yes.</p> <p>8 Q. And can you tell me how many cases</p> <p>9 you've been consulted in in that regard?</p> <p>10 MR. SMITH: Object to form.</p> <p>11 A. Maybe 50 or so.</p> <p>12 BY MR. FERGUSON:</p> <p>13 Q. And in those 50 or so cases, were</p> <p>14 those cases in which Mr. Smith retained you, or</p> <p>15 is it Mr. Smith and perhaps other attorneys as</p> <p>16 well?</p> <p>17 A. I would say Mr. Smith and people</p> <p>18 associated, and attorneys associated with</p> <p>19 Mr. Smith.</p> <p>20 Q. Do you know if you have been listed or</p> <p>21 identified as an expert witness in any of those</p> <p>22 50 or so cases?</p> <p>23 A. I believe so, at least in five or six</p> <p>24 more.</p>
Page 35	Page 37
<p>1 which we've marked as an exhibit, correct?</p> <p>2 A. That's correct.</p> <p>3 Q. You're being paid for your time?</p> <p>4 A. That's correct.</p> <p>5 Q. Is it \$400 an hour? Is that correct?</p> <p>6 A. That's correct.</p> <p>7 Q. And we have the bills in front of us</p> <p>8 that should encompass anything, but about three</p> <p>9 or four hours of your time, correct?</p> <p>10 A. That's correct.</p> <p>11 Q. You also testified and -- did analysis</p> <p>12 and testified in the Berg case, correct?</p> <p>13 A. Correct.</p> <p>14 Q. Do you have any recollection as to how</p> <p>15 much you were paid in connection with your work</p> <p>16 in the Berg case? I realize it will just be an</p> <p>17 estimate, you don't have it in front of you.</p> <p>18 A. Yeah, I believe it was about 7 or</p> <p>19 8,000.</p> <p>20 Q. Other than your work in this case and</p> <p>21 your work in the Berg case, have you done any</p> <p>22 other work on behalf of attorneys in cases</p> <p>23 involving a claim that talc was associated with</p> <p>24 the patient's ovarian cancer?</p>	<p>1 Q. With regard to the cases you've</p> <p>2 actually been identified in, can you give me the</p> <p>3 names of those cases?</p> <p>4 MR. SMITH: Off the record.</p> <p>5 MR. FERGUSON: Yes, that's fine.</p> <p>6 (Off the record discussion.)</p> <p>7 BY MR. FERGUSON:</p> <p>8 Q. Okay. Dr. Godleski, your estimate is</p> <p>9 that you have been retained to consult and</p> <p>10 perhaps have been listed as an expert witness in</p> <p>11 a total of 50 or so cases, is that generally</p> <p>12 correct, as an estimate?</p> <p>13 A. That's correct.</p> <p>14 Q. And do you have any estimate as to how</p> <p>15 much time you have spent in total on those 50 or</p> <p>16 so cases in doing whatever analysis you have</p> <p>17 done to date?</p> <p>18 A. I would -- there's a number of about</p> <p>19 five or six of these cases where we've done the</p> <p>20 electron microscopy. There are probably maybe</p> <p>21 15 or so where I've done the polarized light</p> <p>22 studies. There's another pile that have not</p> <p>23 been gotten to. Usually, I can say there's</p> <p>24 usually a polarized light study of a case such</p>

10 (Pages 34 to 37)

Confidential - John J. Godleski, M.D.

Page 38	Page 40
<p>1 as this with this number of slides, it takes me</p> <p>2 somewhere around two hours.</p> <p>3 Q. So with regard to the five or six,</p> <p>4 again understanding it's an estimate, on which</p> <p>5 you have done the same analysis that you have</p> <p>6 done in Blaes and in Berg with SEM, would --</p> <p>7 just as a ball park estimate as to what your</p> <p>8 time and invoice or billing would be, would it</p> <p>9 be similar to Berg and Blaes in those cases?</p> <p>10 A. I suspect.</p> <p>11 Q. Okay.</p> <p>12 A. I don't think we've done any of those</p> <p>13 bills.</p> <p>14 Q. Okay. And have you done a report,</p> <p>15 prepared a report in any of those cases that you</p> <p>16 can recall, any of them, talking about the five</p> <p>17 or six where you've done the SEM?</p> <p>18 MR. SMITH: Object to form.</p> <p>19 A. How do you define "report"? Are you</p> <p>20 talking about this?</p> <p>21 BY MR. FERGUSON:</p> <p>22 Q. Yes, sir, I am.</p> <p>23 A. No, none of them.</p> <p>24 Q. So obviously on those five or six, you</p>	<p>1 get the blocks. And so that those -- that's why</p> <p>2 I asked you to define "report." Having</p> <p>3 identified blocks and asking for them is kind of</p> <p>4 a step in the process, but it's not the, by any</p> <p>5 means, the final step. So there are cases that</p> <p>6 are in that process.</p> <p>7 Q. All right. And so if I understand you</p> <p>8 correctly, and please correct me if I'm wrong,</p> <p>9 these 15 or so, you are intending to do the SEM</p> <p>10 analysis on them, but you're in the process of</p> <p>11 obtaining the blocks in order to do that?</p> <p>12 A. That's correct.</p> <p>13 Q. All right. So then that leaves out of</p> <p>14 50 or so, as an estimate, about 30 cases on</p> <p>15 which you have not done either polarized light</p> <p>16 microscopy nor SEM, correct?</p> <p>17 A. That's correct.</p> <p>18 Q. And can you tell me -- and there</p> <p>19 probably are different levels in the process,</p> <p>20 but can you tell me on those 30, have you looked</p> <p>21 at anything on any of those cases, or have you</p> <p>22 just been consulted about the possibility of</p> <p>23 doing that later?</p> <p>24 A. A lot of them are neatly organized in</p>
Page 39	Page 41
<p>1 wouldn't have -- whatever time on this invoice</p> <p>2 is associated with generating a report, you</p> <p>3 wouldn't have that on those, right?</p> <p>4 A. I haven't added up the time on them,</p> <p>5 and I haven't generated either bills, or I'm</p> <p>6 working on reports.</p> <p>7 Q. On the 15 or so that you've said that</p> <p>8 you have done polarized light microscopy --</p> <p>9 right?</p> <p>10 A. Yes.</p> <p>11 Q. On those, are those sort of in the</p> <p>12 queue to have the SEM done, or have you looked</p> <p>13 at those and decided, okay, I'm not going to do</p> <p>14 SEM on those 15 or so?</p> <p>15 A. Most of those are in the situation</p> <p>16 where we're asking for blocks and trying to get</p> <p>17 blocks from the pathology department, and</p> <p>18 pathology departments generally don't like to</p> <p>19 release blocks, so that often is a</p> <p>20 time-consuming -- not my time, but it's -- it</p> <p>21 takes a lot of time to get those blocks, so that</p> <p>22 -- and very often I would ask for those by phone</p> <p>23 or by -- usually by phone, but sometimes in an</p> <p>24 e-mail requesting blocks, requesting someone to</p>	<p>1 my office to be done. And generally when I --</p> <p>2 if I receive slides, I'll look at the report,</p> <p>3 look to see that the slides are what they say</p> <p>4 they are, and that's as far as I go. This is</p> <p>5 making sure this is a pathology that has an</p> <p>6 epidemiologic association, and that there are</p> <p>7 slides there that -- sometimes you're surprised</p> <p>8 with what's in the bag.</p> <p>9 Q. With regard to the other 30 cases, is</p> <p>10 it your plan -- and I guess things can happen to</p> <p>11 change your plan, but is your plan with regard</p> <p>12 to those 30 to have them move, once you have the</p> <p>13 information you need and the time to get it</p> <p>14 done, to doing polarized light microscopy and</p> <p>15 then on to SEM analysis?</p> <p>16 A. That's correct.</p> <p>17 Q. So your anticipation or your plan</p> <p>18 would be on these 50 or so cases to do the same</p> <p>19 sort of analysis you have done with regard to</p> <p>20 Berg and Blaes, is that right?</p> <p>21 A. That's correct.</p> <p>22 Q. Now, you've indicated you've been</p> <p>23 working as retained by Mr. Smith in these. Are</p> <p>24 you aware that you've been listed on his website</p>

11 (Pages 38 to 41)

Confidential - John J. Godleski, M.D.

Page 42	Page 44
<p>1 regarding talc litigation?</p> <p>2 A. Yes.</p> <p>3 Q. Okay. And listed under the category</p> <p>4 of "our experts," both you and Dr. Cramer, have</p> <p>5 you seen that before?</p> <p>6 A. Yes.</p> <p>7 Q. Is that -- have you asked anyone to</p> <p>8 remove you from that website at all?</p> <p>9 A. No.</p> <p>10 Q. Let me move outside of talc litigation</p> <p>11 to other litigations.</p> <p>12 Have you been retained in litigations</p> <p>13 other than talc in order to provide a report,</p> <p>14 opinion, and possibly testify?</p> <p>15 A. Yes.</p> <p>16 Q. Okay. Tell me what litigation. We've</p> <p>17 talked about the fact you testified in a mesh</p> <p>18 case, right?</p> <p>19 A. Mm-hmm.</p> <p>20 Q. Is that a yes?</p> <p>21 A. Yes.</p> <p>22 Q. Were you retained in any other mesh</p> <p>23 cases other than the one you testified in?</p> <p>24 A. No.</p>	<p>1 have had asbestos body determinations.</p> <p>2 Q. And you told us earlier that you've</p> <p>3 been deposed in a total of about, I think you</p> <p>4 said, about 20 cases, is that right?</p> <p>5 A. Yeah, at least.</p> <p>6 Q. All right. And you said that half to</p> <p>7 two-thirds of those 20 were as a retained</p> <p>8 expert, as I recall. Does that sound right?</p> <p>9 A. (Nodding in the affirmative).</p> <p>10 Q. And the others were as a treating</p> <p>11 physician?</p> <p>12 A. Yeah.</p> <p>13 Q. And let's stick with the retained</p> <p>14 expert issue. In any other -- have there been</p> <p>15 asbestos cases where you've been retained as an</p> <p>16 expert?</p> <p>17 A. Yes.</p> <p>18 Q. And any estimate about how many of</p> <p>19 those there have been? Not necessarily you've</p> <p>20 been deposed in, but in which you were retained?</p> <p>21 A. Generally I try to avoid it, but I do</p> <p>22 get involved in some asbestos cases as a</p> <p>23 retained expert, so that there have been maybe a</p> <p>24 half dozen over the years.</p>
Page 43	Page 45
<p>1 Q. And you're currently not involved in</p> <p>2 any mesh cases as a retained expert?</p> <p>3 A. No.</p> <p>4 Q. What other litigation -- let's talk</p> <p>5 about your testimony. In what other litigations</p> <p>6 have you given testimony in, I guess other than</p> <p>7 the DeGeorge case we talked about?</p> <p>8 A. Well, my lab is probably the only one</p> <p>9 in this country that routinely does asbestos</p> <p>10 body counts on lung tissue of patients with</p> <p>11 mesothelioma, so that those asbestos body counts</p> <p>12 are done -- as a treating physician, it's done</p> <p>13 as a clinical test and added to the pathology</p> <p>14 report of those cases. Having done that, I then</p> <p>15 get asked either for the slides, which I'm not</p> <p>16 counting, but often I'm asked as a treating</p> <p>17 physician to either give a deposition or to</p> <p>18 testify as to the findings of those studies in</p> <p>19 court.</p> <p>20 So a lot of my testimony, I would say</p> <p>21 almost all of my testimony as a treating</p> <p>22 physician is in these asbestos-related cases</p> <p>23 where it's taking data generated from my</p> <p>24 laboratory on patients with mesothelioma that</p>	<p>1 Q. And you said you would do asbestos</p> <p>2 body counts.</p> <p>3 A. That's correct.</p> <p>4 Q. Okay. And tell me what that means</p> <p>5 from the asbestos standpoint. I don't know much</p> <p>6 about that.</p> <p>7 A. Well, there are -- asbestos fibers</p> <p>8 often form an iron coating around them that have</p> <p>9 a distinctive appearance. When you take a piece</p> <p>10 of lung, you can digest it in Clorox,</p> <p>11 essentially is what's used, and then you extract</p> <p>12 the particulates that are organic, and you are</p> <p>13 left with the mineral content of the lung.</p> <p>14 That's put out onto a filter, and you're able to</p> <p>15 see with light microscopy these asbestos bodies</p> <p>16 that are asbestos fibers covered with -- coated</p> <p>17 with iron. And so that's the determination that</p> <p>18 we do. It's a light microscopic procedure.</p> <p>19 It's relatively quick. Total time in lab both</p> <p>20 for -- the digestion can take a couple of days,</p> <p>21 but the technical time involved with it is</p> <p>22 relatively short, and that's generally billed</p> <p>23 just as part of the pathology workup of the</p> <p>24 case, so that -- but this is something that we</p>

12 (Pages 42 to 45)

Confidential - John J. Godleski, M.D.

Page 46	Page 48
<p>1 do that gets me involved with cases.</p> <p>2 And it's come about that generally</p> <p>3 these are -- these have gone from where people</p> <p>4 were deposing me about it to where they just</p> <p>5 accept this as a given, and then their experts</p> <p>6 deal with it and handle it, and so that we are</p> <p>7 asked for more determinations than I get</p> <p>8 directly involved with. And since the report is</p> <p>9 in the pathology report of the patient, they</p> <p>10 often don't even need me. So that's why the</p> <p>11 number is not as great as the number of times my</p> <p>12 name comes up in court probably.</p> <p>13 Is there more -- there's probably</p> <p>14 another part of this question that I need to</p> <p>15 answer yet, if I remember now what the question</p> <p>16 was.</p> <p>17 Q. That's fine.</p> <p>18 A. I think it had to do with the retained</p> <p>19 expert, and we've talked about the asbestos.</p> <p>20 The other retained expert have to do</p> <p>21 with either my knowledge and expertise in</p> <p>22 inhalation of particles, or in pulmonary</p> <p>23 pathology, and so that I get retained as an</p> <p>24 expert as a pulmonary pathologist in</p>	<p>1 A. That's correct.</p> <p>2 Q. You don't generally diagnose ovarian</p> <p>3 cancer?</p> <p>4 A. In my practice at Brigham & Women's</p> <p>5 Hospital, I'm not -- I am not a gynecologic</p> <p>6 pathologist.</p> <p>7 Q. Are you aware that the cause of most</p> <p>8 ovarian cancers is unknown?</p> <p>9 A. That's a fair statement.</p> <p>10 Q. Do you have any knowledge regarding</p> <p>11 what the risk factors are for ovarian cancer?</p> <p>12 A. Yeah.</p> <p>13 Q. What are they?</p> <p>14 A. Well --</p> <p>15 Q. It's not a test, I'm just trying --</p> <p>16 A. BRCA1 and 2 gene. There's certain</p> <p>17 ethnic groups. And there's -- endometriosis is</p> <p>18 a known association. And talc.</p> <p>19 Q. Are you aware that family history of</p> <p>20 ovarian cancer, breast cancer, or colorectal</p> <p>21 cancer increases a woman's risk of ovarian</p> <p>22 cancer?</p> <p>23 A. Yes.</p> <p>24 Q. Do you have any knowledge as to</p>
Page 47	Page 49
<p>1 relationship to lung cancer, pulmonary embolism,</p> <p>2 pneumonia, other diagnoses of the lung.</p> <p>3 Q. Okay. In what context would that be</p> <p>4 in, in terms of a medical malpractice?</p> <p>5 A. Medical malpractice, yes.</p> <p>6 Q. Any estimate as to how many medical</p> <p>7 malpractice cases -- and I'm trying to</p> <p>8 distinguish between the cases where you're a</p> <p>9 treating physician and ones where you're</p> <p>10 retained as an expert, any estimate about how</p> <p>11 many cases you were retained as an expert in med</p> <p>12 mal cases?</p> <p>13 A. Almost every one I've done has been as</p> <p>14 an expert. I haven't really had any as a</p> <p>15 treating physician. I don't know, maybe 10, 15.</p> <p>16 Q. And in those medical malpractice</p> <p>17 cases, in the 10 or 15, in how many cases were</p> <p>18 you retained by the Plaintiff versus the</p> <p>19 Defendant?</p> <p>20 A. It's more frequently Defendant.</p> <p>21 Q. Let's talk about ovarian cancer a</p> <p>22 little bit.</p> <p>23 As you've discussed, you don't</p> <p>24 generally treat ovarian cancer?</p>	<p>1 whether Ms. Blaes had a family history of breast</p> <p>2 cancer?</p> <p>3 A. No.</p> <p>4 Q. And you haven't reviewed any of the</p> <p>5 medical records, with the exception of</p> <p>6 Exhibit 4, the pathology report, correct?</p> <p>7 A. That's correct.</p> <p>8 Q. That's not part of your charge here,</p> <p>9 to look at medical records and determine what</p> <p>10 may have been a cause or not of Ms. Blaes's</p> <p>11 ovarian cancer?</p> <p>12 A. That's correct, I don't look at</p> <p>13 medical records, other than the pathology</p> <p>14 report. And the pathology report is necessary</p> <p>15 not for the diagnosis, I can make that</p> <p>16 diagnosis, but for the -- to know where the</p> <p>17 tissue is taken from. You can't look at a slide</p> <p>18 and know whether it's a right or left ovary.</p> <p>19 Q. Has anyone informed you that records</p> <p>20 of Mercy Hospital note that Ms. Blaes had a</p> <p>21 maternal aunt diagnosed with breast cancer at</p> <p>22 age 40?</p> <p>23 A. No.</p> <p>24 Q. I understand you haven't looked at the</p>

13 (Pages 46 to 49)

Confidential - John J. Godleski, M.D.

Page 50	Page 52
<p>1 medical records, but sometimes you get</p> <p>2 information from other sources.</p> <p>3 A. I have no information on this case.</p> <p>4 Q. And no one indicated to you that</p> <p>5 Ms. Blaes had a maternal grandmother who was</p> <p>6 diagnosed with breast cancer at age 40?</p> <p>7 A. No.</p> <p>8 Q. In your report, which we'll come back</p> <p>9 to in some detail, you have -- I think it's your</p> <p>10 concluding paragraph, you say that the talc</p> <p>11 found in this case is evidence for a causal link</p> <p>12 between the presence of talc and the development</p> <p>13 of this patient's ovarian cancer.</p> <p>14 Does that sound like what you said in</p> <p>15 your report?</p> <p>16 A. Yes.</p> <p>17 Q. In making that conclusion, did you</p> <p>18 take Ms. Blaes's family history of breast cancer</p> <p>19 into account?</p> <p>20 A. No.</p> <p>21 Q. While we're talking about Ms. Blaes's</p> <p>22 medicals, let's talk about the pathology report.</p> <p>23 A. Okay.</p> <p>24 Q. I'm sorry, I forget which exhibit</p>	<p>1 there was a really prominent calcification as</p> <p>2 part of the tumor. That happens frequently in</p> <p>3 serous carcinomas. This case had a lot of</p> <p>4 calcification. I would probably add that</p> <p>5 because I knew as we looked at it under the</p> <p>6 electron microscope we were always seeing the</p> <p>7 calcium, but it was even very visible in the</p> <p>8 light microscopy.</p> <p>9 Q. And maybe you've already told me the</p> <p>10 significance, but what's the significance?</p> <p>11 A. Just another feature of serous</p> <p>12 carcinomas. Not all serous carcinomas have a</p> <p>13 lot of calcification. This one does.</p> <p>14 Q. The pathology report does not say</p> <p>15 anything about the potential causes or cause of</p> <p>16 Ms. Blaes's ovarian cancer, does it?</p> <p>17 A. No, it documents what's there.</p> <p>18 Q. And obviously that's typical with</p> <p>19 pathology reports; they're not typically going</p> <p>20 to talk about a cause, correct?</p> <p>21 A. Well, not all the time. It depends.</p> <p>22 What I'm thinking is that if -- for example, in</p> <p>23 the lung if you have a pneumonia and you see the</p> <p>24 bacteria, you're talking about the cause. But</p>
Page 51	Page 53
<p>1 number that is.</p> <p>2 A. 4.</p> <p>3 Q. Give me just a second, I think I've</p> <p>4 got a couple copies of that. I know I copied</p> <p>5 it, I don't whether it made it into my stuff or</p> <p>6 not.</p> <p>7 Why don't you just start out, while</p> <p>8 I'm looking for that -- and I don't need you to</p> <p>9 read it, I can read it, I may not be able to</p> <p>10 understand it but I can read it, can you tell me</p> <p>11 what, from your standpoint as a pathologist,</p> <p>12 understanding you're not a gynecologic</p> <p>13 pathologist, what were the significant findings</p> <p>14 in the pathology report?</p> <p>15 A. That she has a poorly differentiated</p> <p>16 serous carcinoma of the ovaries and tube, and</p> <p>17 that had spread into the abdomen and involved</p> <p>18 the omentum, the appendix, the spleen, and the</p> <p>19 liver.</p> <p>20 Q. And based on what you saw, did you</p> <p>21 find anything that you would disagree with from</p> <p>22 this pathology report, based on your analysis of</p> <p>23 the tissue itself?</p> <p>24 A. No. I probably might have added that</p>	<p>1 in this instance there's not a discussion of the</p> <p>2 cause.</p> <p>3 Q. And there's certainly no mention of</p> <p>4 talc in the pathology report?</p> <p>5 A. No.</p> <p>6 Q. I may skip around some and come back</p> <p>7 to things, so I'm not trying to confuse you, but</p> <p>8 I'll move to a little bit different issue here.</p> <p>9 With regard to the talc particles that</p> <p>10 you indicate that you found, it's your opinion</p> <p>11 that you found talc particles in her ovaries,</p> <p>12 correct?</p> <p>13 A. That's correct.</p> <p>14 Q. With respect to the -- and as I</p> <p>15 recall, there were six particles that you</p> <p>16 identified as talc, correct?</p> <p>17 A. Well, 39.</p> <p>18 Q. Okay.</p> <p>19 A. Six were talc with no other material.</p> <p>20 Q. With regard to the six, let's say, do</p> <p>21 you know how long those particles had been</p> <p>22 present in her body?</p> <p>23 A. No.</p> <p>24 Q. No idea, right?</p>

Confidential - John J. Godleski, M.D.

Page 54	Page 56
<p>1 A. No.</p> <p>2 Q. And do you know how those talc</p> <p>3 particles that you found got into her body?</p> <p>4 A. All of the cases that -- by the time</p> <p>5 they come to me they've been seen by others and</p> <p>6 there's some assessment of talc use, perineal</p> <p>7 talc use. I don't know that information. But</p> <p>8 my presumption is that the case has been vetted</p> <p>9 to the point where when it comes to me nobody is</p> <p>10 going to put the time and effort in that we're</p> <p>11 putting in if these cases hadn't been properly</p> <p>12 vetted.</p> <p>13 Q. Okay. When you say the cases haven't</p> <p>14 -- they wouldn't get to you if they hadn't been</p> <p>15 properly vetted, is that vetting by attorneys,</p> <p>16 or by other physicians, or what are you talking</p> <p>17 about in terms of vetting process?</p> <p>18 A. I assume other experts.</p> <p>19 Q. And so if I understand you correctly,</p> <p>20 you assume, then, that by the time they get to</p> <p>21 you, other experts have determined that, in</p> <p>22 fact, there was some talc exposure. Is that</p> <p>23 what you're saying?</p> <p>24 A. That's correct.</p>	<p>1 A. 40, 50.</p> <p>2 Q. And you're looking at 50 or so that</p> <p>3 are in litigation, correct?</p> <p>4 A. Yeah.</p> <p>5 Q. So is that a total of 100, or is there</p> <p>6 overlap?</p> <p>7 A. No, about that many.</p> <p>8 Q. Are you and Dr. Cramer writing up a</p> <p>9 paper for this, on this issue?</p> <p>10 A. Well, we're collecting data.</p> <p>11 Q. You're in the collecting data stage?</p> <p>12 A. Yeah.</p> <p>13 Q. You haven't submitted anything?</p> <p>14 A. No.</p> <p>15 Q. Is it your intent to collect data and</p> <p>16 present a paper?</p> <p>17 A. That's the idea.</p> <p>18 Q. And would that essentially be a case</p> <p>19 series?</p> <p>20 A. We're looking at it more in terms of</p> <p>21 how we're finding the talc in the tissues so</p> <p>22 that it -- we're looking at cases that have been</p> <p>23 quantified in terms of talc use, and we have the</p> <p>24 two ends of the spectrum, and we're trying to</p>
Page 55	Page 57
<p>1 Q. Okay. But as far as what you see and</p> <p>2 what you know, you really can't tell how that</p> <p>3 talc got into her body, correct?</p> <p>4 A. Well, in some cases I can see the talc</p> <p>5 in lymphatics of the perineum, and other cases</p> <p>6 I've seen the talc in the -- within the uterus</p> <p>7 or within the fallopian tube, so from that</p> <p>8 perspective, based on the studies that I've been</p> <p>9 doing, I'm able to see pathways by which the</p> <p>10 talc can get there.</p> <p>11 Q. And you say "studies that I have been</p> <p>12 doing," what are you referring to?</p> <p>13 A. Looking at cases.</p> <p>14 Q. Looking at cases in the context of</p> <p>15 this litigation, correct?</p> <p>16 A. Some in context of litigation, others</p> <p>17 in context of studies with Dr. Cramer and</p> <p>18 Dr. Welch.</p> <p>19 Q. Do you know if you've looked at any --</p> <p>20 have you looked for talc particles in any</p> <p>21 patient other than patients who were involved in</p> <p>22 the litigation, to your knowledge?</p> <p>23 A. Yes.</p> <p>24 Q. How many?</p>	<p>1 use that as a way of understanding in more</p> <p>2 detail the question you're asking me, how does</p> <p>3 it get there.</p> <p>4 Q. When you say "the two ends of the</p> <p>5 spectrum," what are you referring to there?</p> <p>6 A. Well, in terms of the documented talc</p> <p>7 use, documented and quantified.</p> <p>8 Q. And you mentioned that, when I asked</p> <p>9 whether you knew how talc particles got into</p> <p>10 Ms. Blaes's body, that in some cases you could</p> <p>11 see a pathway, you would see talc particles in</p> <p>12 the uterus and the fallopian tubes, in the lymph</p> <p>13 nodes. Did you see any of that in her?</p> <p>14 A. Yes.</p> <p>15 Q. In her analysis?</p> <p>16 Okay. And so while you can see a</p> <p>17 pathway, do you know how those talc particles</p> <p>18 got into the pathway that you're referring to as</p> <p>19 well? Aren't you making -- go ahead, I'm sorry,</p> <p>20 I don't mean to interrupt.</p> <p>21 A. Well, this is what we're looking to</p> <p>22 determine. I mean in terms of when you consider</p> <p>23 it, certainly there's the possibility that they</p> <p>24 can go up the -- through the cavity of the</p>

15 (Pages 54 to 57)

Confidential - John J. Godleski, M.D.

<p style="text-align: right;">Page 58</p> <p>1 uterus and to the fallopian tube, and we've seen 2 talc in those locations. I think that is often 3 assumed to be the primary way that it gets 4 there, because you have instances where the 5 cervix is open, we know that because women get 6 pregnant, because sperm can get there, we know 7 that women have menses and with that the os of 8 the uterus is open, so there's a possibility of 9 material going in that direction. 10 The one area that has not been 11 well-studied, and I think is very important, is 12 the lymphatics. And one of the things that 13 we've been observing is that when you see a case 14 where there's lymphogenic spread of tumor, 15 especially ovarian tumor, the pattern where you 16 see the tumor in lymphatics is often a pathway 17 of lymphatic connection between the primary 18 tumor and where the tumor cells are going. And 19 I've been very impressed in terms of how close 20 to the surface of the cervix, how close to the 21 surface of the vagina lymphatics are, and so 22 that these connections are very clear in terms 23 of the possibility of these being ways that this 24 material could get in. The fact is that we see</p>	<p style="text-align: right;">Page 60</p> <p>1 to wear, you find the particulate every where, 2 in fact the whole joint area becomes blackened, 3 so that the numbers of particles are in the 4 millions. Similar kinds of things can happen 5 with particles in other areas, and it becomes an 6 understanding of macrophages, macrophage biology 7 as to how these particles are handled locally 8 and distally. 9 Q. And were you referring to the paper 10 you published back in about 1990 regarding 11 implants and migration of -- 12 A. Of particulate, yeah. I've been 13 studying tissues and material, foreign materials 14 and tissues a long time. 15 Q. And what you wrote on in 1990 was that 16 those particles moved around the body quite a 17 bit? 18 A. That's true. 19 Q. Lay person's language. 20 If I understand what you said with 21 regard to my original question, I believe you 22 indicated that you thought it was unlikely that 23 the talc particles could have been inhaled and 24 ended up in Ms. Blaes's ovaries, but you can't</p>
<p style="text-align: right;">Page 59</p> <p>1 a lot of foreign material within the perineal 2 tissues, and so we're really trying to 3 understand it and explain it. 4 Q. There are a number of ways that 5 individuals can be exposed to talc, correct, 6 other than just perineal palpitation? 7 A. That's correct. 8 Q. Talc can be inhaled, correct? 9 A. Yes. 10 Q. Can you rule out inhalation as the 11 explanation for the particles that you claim you 12 found of talc in Ms. Blaes's body? 13 A. It's unlikely. In fact, when I did a 14 number of studies where we were looking at 15 prosthetic joints, titanium hips, and looking to 16 where we could then find titanium within the 17 tissues of the body, and it just amazed me to 18 the extent that they could get into the 19 lymphatic system and circulate. And there we 20 had a definite marker of material that was 21 traceable. 22 So it's possible materials can get 23 from one place to another depending on how much 24 material is there, and when a metal hip begins</p>	<p style="text-align: right;">Page 61</p> <p>1 rule that out, is that accurate? 2 A. That's correct. What happens is that 3 as materials come in, and if, for example, in 4 the lung, inhaled materials come into the lung, 5 if they get into the lymphatics they go to 6 regional lymph nodes. So that if you look at a 7 patient's lung that lived in the city or was a 8 smoker, you'd see a lot of black material in 9 their lung tissue, but more importantly you see 10 it in large amounts in their lymph nodes that 11 drain the lung in the chest. 12 We've been finding the same sort of 13 thing in the perineum. If you really want to 14 see the area where there's most talc, if you 15 have lymph nodes on the case, it's more likely 16 than not that you'll find more in the lymph 17 nodes than you'll find in the other tissues, 18 that's because that's the pathway the particles 19 normally take to ultimately reach a site. 20 Depending -- the length of time they 21 can spend in any area really isn't known, but 22 that's the kind of information we'd like to come 23 up with if there's some way we can do that. 24 Q. Can you rule out ingestion as the</p>

Confidential - John J. Godleski, M.D.

Page 62	Page 64
<p>1 explanation for the particles of talc that you</p> <p>2 claim to have found?</p> <p>3 A. Again, ingestion often depends on the</p> <p>4 size as to whether it can cross the gut to get</p> <p>5 into the body. From the perspective of the</p> <p>6 lung, we know, for example, that particles that</p> <p>7 don't go into the lymph nodes, one of the major</p> <p>8 routes of clearance is what we call mucociliary</p> <p>9 clearance, and those particles that come up the</p> <p>10 mucociliary escalator of the lung and bronchi</p> <p>11 are then swallowed and can be found in the GI</p> <p>12 tract.</p> <p>13 A colleague of mine, Wolfgang</p> <p>14 Kreyling, has really made a career of tracing</p> <p>15 the clearance of particles throughout the body,</p> <p>16 and what he finds is that, for example,</p> <p>17 particles directly deposited in the lung, he'll</p> <p>18 find a lot of them in the feces. But you would</p> <p>19 expect that particles crossing from the feces go</p> <p>20 in through the liver, and then are stopped in</p> <p>21 the liver. In fact, you don't get much in the</p> <p>22 liver of particles that are cleared out of the</p> <p>23 lung and go down. Solubilized material you'll</p> <p>24 find more frequently in the liver. But</p>	<p>1 different parts of the body, is the fact that</p> <p>2 perineal application at least is close to entry</p> <p>3 point for the ovaries? Is that one of the</p> <p>4 reasons why you believe that that is evidence of</p> <p>5 a relationship?</p> <p>6 A. That's -- well, the main reason that</p> <p>7 there's a relationship is that it's been</p> <p>8 studied, and there's been a dose-response</p> <p>9 relationship established between talc use and</p> <p>10 development of ovarian cancer. And it's</p> <p>11 perineal talc use, not any talc use, that would</p> <p>12 involve inhalation or other routes.</p> <p>13 Q. And you're referring to Dr. Kramer's</p> <p>14 work?</p> <p>15 A. Dr. Kramer's work.</p> <p>16 Q. Anybody else you point to who has come</p> <p>17 to the same conclusion?</p> <p>18 A. Yeah, there are several papers.</p> <p>19 Chang, Hess. A number of those -- of papers</p> <p>20 that have come to that conclusion.</p> <p>21 Q. And there are a number of papers and</p> <p>22 institutions who have come to a different</p> <p>23 conclusion, correct?</p> <p>24 A. Not many.</p>
Page 63	Page 65
<p>1 insoluble particulate usually will go out</p> <p>2 through the feces.</p> <p>3 So it depends on the material to a</p> <p>4 great extent, but for the most part what goes</p> <p>5 down through the GI tract doesn't necessarily</p> <p>6 circulate very well if it's in the form of an</p> <p>7 insoluble particulate.</p> <p>8 Q. Going back to my question, though, you</p> <p>9 can't rule out ingestion as a possible way that</p> <p>10 the talc particles that you indicate you found</p> <p>11 got into her body?</p> <p>12 A. No, but I would put it very unlikely.</p> <p>13 Q. Certainly you'd agree that it's</p> <p>14 possible to ingest talc particles from food,</p> <p>15 drink, or medicines, correct?</p> <p>16 A. Yes.</p> <p>17 Q. Or even the air, correct?</p> <p>18 A. Yeah.</p> <p>19 Q. Talc is in a lot of materials?</p> <p>20 A. Yes. We have to be very careful when</p> <p>21 we're wanting to study talc that we have no</p> <p>22 contamination from the environment.</p> <p>23 Q. Now, when we talk about the particles,</p> <p>24 as you've been discussing, migrating to</p>	<p>1 Q. Okay. We can talk about that.</p> <p>2 Are you aware, Dr. Godleski, that</p> <p>3 condom manufacturers coated their products with</p> <p>4 talc for a number of years?</p> <p>5 A. Yes.</p> <p>6 Q. Do you know whether Mr. and Mrs. Blaes</p> <p>7 ever used condoms during their marriage?</p> <p>8 A. No.</p> <p>9 Q. You don't know one way or the other?</p> <p>10 A. Don't know.</p> <p>11 Q. Wouldn't that be significant to you as</p> <p>12 far as providing an opinion that your finding</p> <p>13 talc particles, in your opinion, was evidence to</p> <p>14 support causation in this case?</p> <p>15 A. Well, there's also the issue of</p> <p>16 whether use of -- the perineal use of talc can</p> <p>17 be moved further into the vagina with sexual</p> <p>18 intercourse.</p> <p>19 Q. And I'm focused on the talc on the</p> <p>20 condoms now. Don't you think it's important to</p> <p>21 know whether or not Mr. or Mrs. Blaes utilized</p> <p>22 condoms during their marriage in terms of</p> <p>23 identifying where the talc that you indicate you</p> <p>24 found came from?</p>

17 (Pages 62 to 65)

Confidential - John J. Godleski, M.D.

Page 66	Page 68
<p>1 A. It's potentially another source.</p> <p>2 Q. And certainly since you don't know</p> <p>3 when this talc was deposited in Ms. Blaes's</p> <p>4 ovarian tissue, you could not rule out condom</p> <p>5 use as a source for the talc that you indicate</p> <p>6 you found, correct?</p> <p>7 A. It could contribute.</p> <p>8 Q. And has anyone indicated to you that</p> <p>9 Mr. Blaes testified that he and his wife used</p> <p>10 condoms for 25 years?</p> <p>11 A. No, I don't -- I'm not aware of that.</p> <p>12 Q. And as we've been discussing for the</p> <p>13 last few minutes, you really can't tell from</p> <p>14 what you saw where the talc that you identified</p> <p>15 came from, correct?</p> <p>16 You don't like that question. Let me</p> <p>17 try again, okay?</p> <p>18 A. Okay.</p> <p>19 Q. No problem.</p> <p>20 We've talked about the fact that you</p> <p>21 can't rule out inhalation, ingestion, or condom</p> <p>22 use as a source for the talc particles you've</p> <p>23 seen, correct?</p> <p>24 A. Well, we've said that</p>	<p>1 A. Yes, that's correct.</p> <p>2 Q. You're not an immunologist, correct?</p> <p>3 A. No.</p> <p>4 Q. Have you ever published any papers on</p> <p>5 immunology?</p> <p>6 A. Well, immunology is a big field. I've</p> <p>7 done a lot of papers on macrophage biology, and</p> <p>8 macrophages are part of immunologic response, so</p> <p>9 from that perspective you could say I've</p> <p>10 published on immunology.</p> <p>11 Q. Okay. And we can probably find those</p> <p>12 if we look at your CV?</p> <p>13 A. Yep.</p> <p>14 Q. Do you know offhand which ones they</p> <p>15 are so I don't have to look through them all?</p> <p>16 A. There's probably 20 or 30 there.</p> <p>17 Q. Okay. 20 or 30 on macrophage biology?</p> <p>18 A. Yes.</p> <p>19 Q. You made reference a couple of times,</p> <p>20 Dr. Godleski, to an article that you co-authored</p> <p>21 with Dr. Cramer in 2007. I'll mark that as</p> <p>22 Exhibit 15 to your deposition.</p> <p>23</p> <p>24</p>
Page 67	Page 69
<p>1 inhalation/ingestion are very unlikely. The</p> <p>2 fact that there's condom use that may have talc</p> <p>3 on the condom may contribute, I can't rule that</p> <p>4 out as a possibility.</p> <p>5 Q. We've been going for about an hour and</p> <p>6 25 minutes or so. Why don't we take a brief</p> <p>7 break and stretch our legs, and then come back</p> <p>8 and talk some more, okay?</p> <p>9 A. Okay.</p> <p>10 (Whereupon, a recess was taken from</p> <p>11 10:24 a.m. to 10:31 a.m.)</p> <p>12 BY MR. FERGUSON:</p> <p>13 Q. Dr. Godleski, we've taken a break.</p> <p>14 Are you ready to proceed?</p> <p>15 A. Yes.</p> <p>16 Q. You talked earlier about the fact that</p> <p>17 on occasion, even though you're not a</p> <p>18 gynecologic pathologist, you are asked to look</p> <p>19 at ovarian tissue, correct?</p> <p>20 A. Yes.</p> <p>21 Q. Fair to say that your -- that you</p> <p>22 would be called in in the situation where you</p> <p>23 were looking for certain particulate matter with</p> <p>24 regard to the ovary?</p>	<p>1 (Whereupon, Godleski Exhibit Number</p> <p>2 15, Cramer, et al article titled</p> <p>3 Presence of Talc in Pelvic Lymph Nodes</p> <p>4 of a Woman With Ovarian Cancer and</p> <p>5 Long-term Genital Exposure to Cosmetic</p> <p>6 Talc, was marked for identification.)</p> <p>7 BY MR. FERGUSON:</p> <p>8 Q. We'll just talk a little bit about</p> <p>9 that.</p> <p>10 A. Okay.</p> <p>11 Q. Now, this is the paper that you were a</p> <p>12 co-author with Dr. Cramer on that has to do with</p> <p>13 a case report, correct?</p> <p>14 A. That's correct.</p> <p>15 Q. In the first paragraph after the</p> <p>16 abstract you indicate that the "epidemiologic</p> <p>17 association between the use of cosmetic talc and</p> <p>18 genital hygiene and ovarian cancer was first</p> <p>19 described in 1982," correct?</p> <p>20 A. That's correct.</p> <p>21 Q. And the 1982 article you're referring</p> <p>22 to is an article by Dr. Cramer, correct?</p> <p>23 A. That's correct.</p> <p>24 Q. And then that sentence goes on to say,</p>

18 (Pages 66 to 69)

Confidential - John J. Godleski, M.D.

Page 70	Page 72
<p>1 "and many subsequent studies found talc use to 2 increase risk for ovarian cancer." Correct? 3 A. Yes. 4 Q. And then there's a citation, a 5 footnote to that. If we look back at the last 6 page with the footnote, that cites to one 7 article, which is a 1999 article by Dr. Cramer 8 as lead author, right? 9 A. Yes. 10 Q. So fair to say at least in this case 11 report the citation for many subsequent studies 12 finding talc use to increase risk for ovarian 13 cancer is one article, right? I'm not saying 14 that's all, but that's all you've cited to here? 15 A. That's correct. 16 Q. Now, continuing in that paragraph 17 after the sentence we just talked about says 18 "However, the causality of the relationship has 19 been challenged for several reasons," correct? 20 A. That's correct. 21 Q. And then the first reason why this has 22 been challenged, according to your article, is 23 "the association is a relatively weak one." 24 Correct?</p>	<p>1 not been conclusively proven," correct? 2 A. That's correct. 3 Q. And you would still agree with that, 4 correct? 5 A. Well, it's something we're still 6 working on. 7 Q. Look at page, it's the second page of 8 the article, Page 499, you indicate that "X-ray 9 spectroscopy showed a magnesium and silicon 10 signature - compatible with talc," correct? 11 A. That's correct. 12 Q. Tell me about that, tell me about what 13 this -- this little spectrum below, tell me what 14 that is. It's Exhibit -- Figure 2-B. Explain 15 what that is to me, please. 16 A. Well, it's an x-ray spectrum. And 17 what one does is you essentially focus the beam 18 on the particle. And although the beam is 19 fairly tight, it's not completely, so that you 20 get a little bit of the material around it, so 21 that you get a carbon signal, as you can see in 22 this spectra, the first peak is labeled C, and 23 that's coming from the tissue itself. And then 24 the next is oxygen, and talc being a magnesium</p>
Page 71	Page 73
<p>1 A. That's correct. 2 Q. Okay. It says "summary relative risk 3 of approximately 1.3," correct? 4 A. Mm-hmm. 5 Q. Yes? 6 A. Yes. 7 Q. And you would agree that's a 8 relatively weak association, right? 9 A. Relative risk of 1.3 is significant, 10 but it is relatively weak, as it says here. 11 Q. Then the second reason stated in your 12 article as to why the causality of this 13 relationship has been challenged is that "no 14 clear increase in risk with duration of use has 15 been found in most studies," correct? 16 A. That's what it says. 17 Q. Okay. And when you say that's what it 18 says, that's what you said as co-author to this 19 case report, right? 20 A. Yes. 21 Q. And then the third reason why the 22 causality has been challenged, according to your 23 article, is that "the ability of talc used in 24 the genital area to enter the pelvic cavity has</p>	<p>1 silicate it includes some oxygen. And then you 2 look at the relationship of magnesium and 3 silica, and you can see that it's -- this 4 relationship is what you would expect to see 5 with talc, this has been reported many times, 6 and this is what we look for. 7 It turns out that there's also a 8 slight signal of iron and aluminum in this -- in 9 this spectrum, it's very small. That can be 10 from surrounding material or some contamination 11 of the talc. 12 Q. Could iron be endogenous? 13 A. The iron could certainly be 14 endogenous. 15 Q. So in order to determine that this is 16 compatible with calc, you look at the spectrum, 17 and you look at the ratio between the silica and 18 the magnesium, correct? 19 A. That's correct. 20 Q. All right. And in this case -- and 21 it's not marked, but just in looking at it, it 22 looks like about 12 to 9, would you agree with 23 that, silicon to magnesium? 24 A. Yes, roughly so.</p>

Confidential - John J. Godleski, M.D.

Page 74	Page 76
<p>1 Q. And the ratio, if we do the math, 2 which, of course, I had to do on an iPhone or 3 something of 12 to 9, that's a ratio of 1.33, 4 correct? 5 A. Okay. 6 Q. And so that ratio is what you're 7 indicating is consistent with talc, correct? 8 A. Yes. 9 Q. So if that ratio were, say, 1 to 1, 10 that would not be compatible with talc, right? 11 A. Less likely. 12 Q. Under the section called "Comment" on 13 Page 499, it says "Talc is a hydrous magnesium 14 silicate chemically similar to asbestos but 15 structurally quite different," correct? 16 A. That's correct. 17 Q. And certainly you wrote that and agree 18 with it, that talc is structurally quite 19 different from asbestos? 20 A. Yes. 21 Q. In this article you also cite to a 22 paper by Heller, Et Al on Page 500, correct? 23 A. Yes. 24 Q. And do you recall, maybe not word for</p>	<p>1 talc were found to have particles consistent 2 with talc, correct, in their study? 3 A. That's correct. 4 Q. And of the 12 women who did not use 5 talc, there was -- there were more women that 6 did not use talc? 7 A. There were 6. 8 Q. There were 6. 9 A. So it's roughly 50 percent in both. 10 Q. So at least in their study, clearly 11 women who had not regularly used talc were found 12 to have talc particles, or particles consistent 13 with talc? 14 A. That's what they found. 15 Q. And as we've talked about, there are 16 other sources of talc in the ovaries other than 17 perineal application, correct? 18 A. Yes. 19 Q. And, in fact, another point of the 20 Heller article is none of these women had 21 ovarian or any other cancer, correct? 22 A. That's correct. 23 Q. So again, we had women who were found 24 to have talc in the ovaries, but did not have</p>
Page 75	Page 77
<p>1 word, but generally the Heller article? 2 A. Not at this point. 3 Q. All right. But what you all wrote 4 here was that in the Heller paper, they actually 5 evaluated the potential for talc to migrate into 6 the pelvis, correct? 7 A. Yes. 8 Q. "By electron microscopy, tissues from 9 5 of 12 women who regularly used talc and 6 of 10 12 who had not were found to have particles 11 consistent with talc," correct? 12 A. That's correct. 13 Q. And you state in here that the 14 investigators from the Heller paper "concluded 15 that talc can be found in ovaries but this does 16 not correlate with genital talc use," correct? 17 A. That's what they concluded. 18 Q. And, in fact, if we look at their 19 findings, the specific numbers, there was a 20 higher proportion of women who had not regularly 21 used talc who were found to have particles 22 consistent with talc as opposed to women -- let 23 me start over again. I didn't do that well. 24 5 out of 12 women who regularly used</p>	<p>1 ovarian or any other cancer, right? 2 A. That's correct. 3 Q. Okay. And then back to -- away from 4 the Heller study, back to the statements made by 5 you and your colleagues who wrote this, on 6 Page 500 in the second -- first full paragraph 7 on the second column, you say "Also we are not 8 claiming that a causal relationship between 9 ovarian cancer and talc use is proven for this 10 case or in general," correct? 11 A. Well, for one case you can't make that 12 claim and expect to get it published. 13 Q. And it says "we are not claiming that 14 a causal relationship between ovarian cancer and 15 talc use is proven for this case," correct, but 16 it also says a causal relationship between 17 ovarian cancer and talc use has not been proven 18 in general, correct? 19 A. That's what it says. 20 Q. And again, you were an author, I 21 assume you had input into this article, correct? 22 A. Yes. 23 Q. And then the next sentence indicates 24 that "case reports cannot establish causality,"</p>

20 (Pages 74 to 77)

Confidential - John J. Godleski, M.D.

Page 78	Page 80
<p>1 and that's a basic assertion, correct?</p> <p>2 A. Yes.</p> <p>3 Q. You'd agree with that?</p> <p>4 A. Yes.</p> <p>5 Q. Let me, while I'm thinking about it,</p> <p>6 let me skip over to --</p> <p>7 MR. SMITH: Can I make a real quick</p> <p>8 call?</p> <p>9 MR. FERGUSON: No problem.</p> <p>10 MR. SMITH: Take two seconds.</p> <p>11 MR. FERGUSON: No problem. Take your</p> <p>12 time. I'm moving to a different area.</p> <p>13 (Whereupon, a recess was taken from</p> <p>14 10:46 a.m. to 10:50 a.m.)</p> <p>15 BY MR. FERGUSON:</p> <p>16 Q. Doctor, a couple more questions on</p> <p>17 this 2007 article. Again on Page 500 in the</p> <p>18 same -- in that paragraph we referred to, the</p> <p>19 first full paragraph in the column on the right,</p> <p>20 it says that "it is necessary to establish in a</p> <p>21 quantitative manner the likelihood of finding</p> <p>22 talc in lymph nodes of women with ovarian cancer</p> <p>23 and correlate this by whether they did or did</p> <p>24 not use talc."</p>	<p>1 the people funding it felt it wasn't in the area</p> <p>2 that they were -- that there was interest, so</p> <p>3 that --</p> <p>4 Q. Okay. Let's look at Exhibit 3,</p> <p>5 please, which is your report in this case. I'm</p> <p>6 going to come back to this in more detail, but I</p> <p>7 want to -- as we're talking about the spectrum</p> <p>8 from that article, I want to take a look at</p> <p>9 that. Look at Page 3, the third page, of your</p> <p>10 report.</p> <p>11 Are you with me?</p> <p>12 A. Yes.</p> <p>13 Q. Okay. And toward the bottom of the</p> <p>14 page there's Figure 5, which is an EDX spectrum</p> <p>15 of what you've identified as a talc particle of</p> <p>16 magnesium, silicon, and oxygen, correct?</p> <p>17 A. Mm-hmm.</p> <p>18 Q. And one thing I'm a little confused</p> <p>19 about, is this sometimes called EDS and</p> <p>20 sometimes EDX? Is it the same thing?</p> <p>21 A. Same thing.</p> <p>22 Q. Okay. I thought so.</p> <p>23 So you refer to the fact that Figure</p> <p>24 4, just above the one we were talking about, is</p>
Page 79	Page 81
<p>1 That's what it says, right?</p> <p>2 A. Yes.</p> <p>3 Q. Is that, trying to establish that, is</p> <p>4 that the purpose of your current work that</p> <p>5 you're doing in these cases, these matters?</p> <p>6 A. Yeah, some of it. Actually the person</p> <p>7 that started that study left, and then somebody</p> <p>8 else picked it up and then didn't finish it</p> <p>9 either, and it sort of left not finished.</p> <p>10 Q. And this research started in 2007?</p> <p>11 A. It happens.</p> <p>12 Q. So it's been going on for eight or so</p> <p>13 years?</p> <p>14 A. Well, not continuously, by any means.</p> <p>15 Q. Off and on for eight years, correct?</p> <p>16 A. Yes.</p> <p>17 Q. Have you or your lab been able to get</p> <p>18 funding from any source to support this research</p> <p>19 for the last eight years?</p> <p>20 A. No, we haven't really tried. We've</p> <p>21 had good funding in other areas, and so that</p> <p>22 it's not been a direction that we've gone.</p> <p>23 Although we did apply for one local grant for</p> <p>24 it, and it had actually outstanding scores, but</p>	<p>1 one of six what you call talc particles found in</p> <p>2 Ms. Blaes's ovarian tissue, correct?</p> <p>3 A. That's correct.</p> <p>4 Q. And Figure 5 is the EDX spectrum</p> <p>5 regarding that, right?</p> <p>6 A. Mm-hmm.</p> <p>7 Q. And under the little caption under</p> <p>8 Figure 5 it says "The ratio of magnesium to</p> <p>9 silicon is the ratio expected with talc,"</p> <p>10 correct?</p> <p>11 A. That's correct.</p> <p>12 Q. If you look at the little box in the</p> <p>13 upper right-hand side of the spectrum, that</p> <p>14 actually gives the readout of where it's</p> <p>15 silicon -- where oxygen is, as well as silicon</p> <p>16 and magnesium, correct?</p> <p>17 A. Mm-hmm.</p> <p>18 Q. Right? Is that a yes?</p> <p>19 A. Yes.</p> <p>20 Q. Just, sorry, I don't mean to be rude,</p> <p>21 just make sure we get it for the record.</p> <p>22 Now, if we look at the silicon to</p> <p>23 magnesium ratio there, it would essentially be</p> <p>24 1-to-1, 11.2 and 10.7, correct?</p>

Confidential - John J. Godleski, M.D.

Page 82	Page 84
<p>1 A. That's correct.</p> <p>2 Q. And again expressed as silicon to</p> <p>3 magnesium, that's about 1.04. Does that sound</p> <p>4 about right?</p> <p>5 A. Well, let's stop for a minute.</p> <p>6 Q. Okay.</p> <p>7 A. What you did previously was to</p> <p>8 essentially look at the counts and make that</p> <p>9 distinction. The box over here, what that does</p> <p>10 is takes into account the molecular weight of</p> <p>11 the element, and so it's giving you a weight</p> <p>12 percentage of what's there. And so that's why</p> <p>13 it's not going to be the same as what you were</p> <p>14 quoting previously.</p> <p>15 Q. Okay. And explain that to me again.</p> <p>16 Is this by weight percentage?</p> <p>17 A. One is by -- if you just look at the</p> <p>18 graph and you look at counts, you'll see that</p> <p>19 we're sort of like 11 to 8. But once you</p> <p>20 calculate that up, and the software does this,</p> <p>21 and it takes into account the fact that we have</p> <p>22 oxygen there as well as other elements, and it</p> <p>23 gives you the balance, and gives you the weight</p> <p>24 percentage of each of those. And so with that,</p>	<p>1 information on what would be the</p> <p>2 silicon/magnesium ratio or weight for talc?</p> <p>3 A. Yeah, a lot of publications.</p> <p>4 Q. Okay. Give me some examples where I</p> <p>5 might go look for that. It's not a test.</p> <p>6 A. Almost any publication that is showing</p> <p>7 talc will have that. You can go to something</p> <p>8 like the McCrone Atlas will have that</p> <p>9 information, and you can go to -- essentially</p> <p>10 any book on EDS or EDX will tell you how that --</p> <p>11 and talc is often used as an example.</p> <p>12 Q. Have you ever heard of an organization</p> <p>13 called International Center for Diffraction</p> <p>14 Data?</p> <p>15 A. Not specifically, but I'm sure there's</p> <p>16 such a place.</p> <p>17 Q. Okay. Dr. Godleski, there have been a</p> <p>18 number of epidemiological studies published</p> <p>19 regarding this possible association between talc</p> <p>20 and ovarian cancer, correct?</p> <p>21 A. That's correct.</p> <p>22 Q. And have you read this literature?</p> <p>23 A. Yes.</p> <p>24 Q. Have you read all the articles, or</p>
Page 83	Page 85
<p>1 you know, those are going to be what you're</p> <p>2 going to expect to find in this.</p> <p>3 So that whether you look at the ratio</p> <p>4 of counts or the weight ratio, you're going to</p> <p>5 get two different numbers, but they're still</p> <p>6 going to be within what you would expect to find</p> <p>7 for talc.</p> <p>8 Q. Okay. And so --</p> <p>9 A. If that's where you were going.</p> <p>10 Q. I seldom know where I'm going.</p> <p>11 So when you're talking about weight,</p> <p>12 I'm sure I'll get my terminology wrong, is that</p> <p>13 atomic weight?</p> <p>14 A. It takes into account the weight of</p> <p>15 the element.</p> <p>16 Q. And if we're looking at the weight of</p> <p>17 the elements in a silicon to magnesium ratio, do</p> <p>18 you believe that this EDX spectrum is consistent</p> <p>19 with the signature -- is consistent with talc?</p> <p>20 A. Yes.</p> <p>21 Q. And when you talk about what is the --</p> <p>22 what is consistent with talc as far as what</p> <p>23 you're reading on the spectrum, where do you</p> <p>24 obtain that information? Is there published</p>	<p>1 have you read some subset?</p> <p>2 A. I've read some at various times.</p> <p>3 Q. All right.</p> <p>4 A. I didn't re-read the literature to</p> <p>5 prepare for this deposition.</p> <p>6 Q. And I'm not going to test you on that</p> <p>7 literature, even if I could.</p> <p>8 Can you recall which articles -- can</p> <p>9 you just tell me which ones you can recall</p> <p>10 having read? We've talked about a couple of</p> <p>11 Dr. Cramer's before.</p> <p>12 A. I've read Dr. Cramer's work. There's</p> <p>13 an article by Dr. Hess in 2010. There's another</p> <p>14 article, the name of the first author escapes</p> <p>15 me, but it's a co -- it's a study in</p> <p>16 Los Angeles, California-based. And so there</p> <p>17 have been studies geographically in different</p> <p>18 parts of the country, and I think those are</p> <p>19 three examples where Cramer's population is in</p> <p>20 this area, whereas I believe Hess's population</p> <p>21 was in Pennsylvania, and the third population is</p> <p>22 in Los Angeles, and these studies all found very</p> <p>23 similar findings.</p> <p>24 Q. In looking at your report, which is</p>

22 (Pages 82 to 85)

Confidential - John J. Godleski, M.D.

<p style="text-align: right;">Page 86</p> <p>1 Exhibit 3 we've been talking about, is it 2 accurate to say that all the opinions that you 3 would be expressing in this case at the time of 4 trial would be included in this report from your 5 standpoint? 6 A. I believe so. 7 Q. And go to the last sentence again that 8 we've made reference to before where you say 9 that "to a reasonable degree of medical 10 certainty the talc found in this case is 11 evidence for a causal link between the presence 12 of talc and the development of this patient's 13 ovarian cancer," correct? 14 A. That's correct. 15 Q. Do you have an opinion one way or the 16 other as to whether there is, in fact, a causal 17 link between the presence of talc and the 18 development of this patient's ovarian cancer? 19 A. Yes. 20 Q. And what's that opinion? 21 A. That finding the talc in the tissues 22 of this patient supports the concept that this 23 has an etiologic role in the development of the 24 patient's cancer.</p>	<p style="text-align: right;">Page 88</p> <p>1 Q. I want to walk you through the report 2 now so I make sure that I understand what you 3 said. And I'm going to kind of skip over the 4 first paragraph which talks about your 5 experience, which we've already talked about to 6 some degree. After I say that, let me bring up 7 a thing or two. 8 In the fourth line from the bottom of 9 the first paragraph of your report, it says "I 10 am the pathologist providing the final opinion 11 on difficult diagnostic cases of lung disease 12 within our department." Correct? 13 A. That's correct. 14 Q. But I think as we talked about 15 earlier, you're not the pathologist providing 16 the final opinion on difficult diagnostic cases 17 of ovarian cancer within your department, 18 correct? 19 A. That's correct. And that sentence 20 continues and says "and I am a recognized expert 21 whose opinion is sought by pathologists from 22 other hospitals in the diagnosis of foreign 23 material in tissues throughout the body using 24 scanning electron microscopy and energy</p>
<p style="text-align: right;">Page 87</p> <p>1 Q. Because it's there, it has a role in 2 the cause? 3 A. Well, because there's a body of 4 knowledge that asserts that there's a strong 5 association, and in this particular patient we 6 find that there is talc present in the lesional 7 tissue. 8 Q. And the reason for my question is 9 you're saying here that finding talc is evidence 10 for a causal link, and it seems to me that's 11 different than saying there's a causal link. Am 12 I misreading the report? 13 A. I guess I'm missing the nuance of what 14 you're trying to get at here. 15 Q. Your opinion that there is a causal 16 link has to depend not only on the fact there 17 was talc present, in your opinion, but on the 18 epidemiological data, correct? 19 A. That's correct. 20 Q. And understanding you're not an 21 epidemiologist, is it fair to say you would 22 defer on the epidemiological data to the authors 23 of those studies, including Dr. Cramer? 24 A. That's correct.</p>	<p style="text-align: right;">Page 89</p> <p>1 dispersive x-ray analyses." 2 Q. Looking at the second paragraph on 3 Page 1, you say "you've reviewed the 4 histopathological slides in the case of 5 Ms. Shaun Blaes obtained from St. Mary's, 6 correct? 7 A. That's correct. 8 Q. And you cite there were 32 slides 9 labeled, as you've indicated, "which included 10 slides of the left and right ovaries and 11 fallopian tubes, a peritoneal biopsy, uterus, 12 cervix, endometrium, possible myomas, surface 13 adhesions, omentum, appendix, spleen, and 14 perisplenic fat," correct? 15 A. That's correct. 16 Q. These slides came to you through the 17 sources that we've already talked about, 18 correct? 19 A. That's correct. 20 Q. To your understanding, were the slides 21 prepared at Mercy -- St. Mary's Health Center? 22 A. Yes. 23 Q. Fair to say that you do not know what 24 the normal laboratory protocols are at that</p>

23 (Pages 86 to 89)

Confidential - John J. Godleski, M.D.

Page 90	Page 92
<p>1 hospital?</p> <p>2 A. That's correct.</p> <p>3 Q. Would you agree that histology</p> <p>4 laboratories at hospitals generally are not</p> <p>5 designed to keep simple, articulate contaminants</p> <p>6 out of tissue slides?</p> <p>7 A. Absolutely.</p> <p>8 Q. And isn't it fairly common to find</p> <p>9 particulate contaminate in normal</p> <p>10 hospital-prepared slides?</p> <p>11 A. Yes. But the question always is is</p> <p>12 that particulate material within the plane of</p> <p>13 the tissue, within the tissue, or is it above</p> <p>14 the tissue, and there's no question that most</p> <p>15 hospital-prepared slides will have particulate</p> <p>16 material out of the plane of focus, and a lot of</p> <p>17 it. So that's why it can take as much as two</p> <p>18 hours to study these cases in order to make sure</p> <p>19 that any particle that I'm suggesting is a</p> <p>20 particle of interest is in the plane of section,</p> <p>21 is contiguous with the tissue, and indicative of</p> <p>22 a particle that would be in the tissue as</p> <p>23 opposed to some surface contamination from the</p> <p>24 laboratory.</p>	<p>1 Q. Why don't you go to the next page of</p> <p>2 the report, and explain to me what Figure 1</p> <p>3 shows. You have a caption here, but why don't</p> <p>4 you explain at that to me. What are we looking</p> <p>5 at here?</p> <p>6 A. Let me get something to write with.</p> <p>7 Q. No problem.</p> <p>8 A. This is tissue, and this is ovarian</p> <p>9 stroma here. This is the tumor, and there's</p> <p>10 sort of nest of tumor all through here.</p> <p>11 These dark blue blobs here are</p> <p>12 calcifications. And I commented before in this</p> <p>13 deposition, and I comment in the report, is that</p> <p>14 there are many calcifications within this tumor,</p> <p>15 and in this area you can see them all very</p> <p>16 clearly. And so there's tumor, and as you look</p> <p>17 at this tumor here it seems to be on the</p> <p>18 surface, it also has some calcifications there.</p> <p>19 Here it seems to be in a tissue space, and in</p> <p>20 these locations it seems to be in a lymphatic.</p> <p>21 You can see that this has -- is bounded by the</p> <p>22 tissue, but these are -- when we look at this</p> <p>23 under the microscope we would appreciate this to</p> <p>24 be a lymphatic vessel.</p>
Page 91	Page 93
<p>1 Q. You indicate in your report that these</p> <p>2 slides were assessed by light microscopy. And I</p> <p>3 think I know what that is, but can you explain</p> <p>4 what you mean by light microscopy?</p> <p>5 A. A light microscope simply has a light</p> <p>6 bulb that shines from below usually, and you</p> <p>7 look into the microscope and you see the tissue,</p> <p>8 because it's stained, and cut at a thickness</p> <p>9 that allows you to see individual cells, and so</p> <p>10 you're looking into a simple microscope.</p> <p>11 Q. Kind of like the microscope I would</p> <p>12 have had in my science kit back in the '60s,</p> <p>13 although admittedly much better?</p> <p>14 A. Much better, but yes.</p> <p>15 Q. Same concept?</p> <p>16 A. Same concept.</p> <p>17 Q. And you used that light microscopy to</p> <p>18 confirm the diagnosis of carcinoma as you've</p> <p>19 discussed, right?</p> <p>20 A. That's correct.</p> <p>21 Q. And is that the kind of analysis that</p> <p>22 typically the pathologist at the hospital would</p> <p>23 do, a light microscopy?</p> <p>24 A. Yes.</p>	<p>1 So in this one area of tumor, we have</p> <p>2 the characteristics that include its papillary</p> <p>3 configuration. Its cells are typical of serous</p> <p>4 carcinoma. Although we don't show it well, as</p> <p>5 you look at this you can see there's some cells</p> <p>6 with larger nuclei, and almost a solid mass of</p> <p>7 tumor. That's what we would use to use the</p> <p>8 distinction poorly differentiated. And then</p> <p>9 these are the papillary components shown right</p> <p>10 here.</p> <p>11 So this first picture of this</p> <p>12 particular tumor shows a lot of its features in</p> <p>13 one very small field. But as you look through</p> <p>14 slides of this, you see those features</p> <p>15 repeatedly again and again and again. And this</p> <p>16 field was selected because it shows almost all</p> <p>17 the features (indicating).</p> <p>18 Q. Okay. And I'm going to -- I</p> <p>19 appreciate that, and that helps me. I'm going</p> <p>20 to try -- since at times you were pointing to</p> <p>21 things that won't show up on the record here,</p> <p>22 let me just make sure that we've identified</p> <p>23 that.</p> <p>24 At the bottom of Figure 1, there's</p>

24 (Pages 90 to 93)

Confidential - John J. Godleski, M.D.

<p style="text-align: right;">Page 94</p> <p>1 something that looks like kind of a diagonal 2 stripe. 3 A. Yeah. 4 Q. What is that again? 5 A. That's what we would call ovarian 6 stroma, or ovarian tissue. That's not the 7 tumor. 8 Q. Okay. And then you pointed to the 9 tumor, which would be the kind of -- 10 A. The darker material. You have black 11 and white, I have a color. It's sort of -- on 12 my color picture it's darker blue. It's what we 13 call more hyperchromatic. 14 And then there are these very dark 15 blue dots that are scattered throughout around 16 the tissue, and those are the calcifications. 17 Q. The calcifications are the dark blue? 18 A. These really dark blue dots all 19 throughout here, and there's some up here, and 20 there's some over here in the tumor. These are 21 calcifications (indicating). 22 And calcifications, and what are 23 sometimes termed psammoma bodies, are common 24 features of a serous carcinoma of the ovary.</p>	<p style="text-align: right;">Page 96</p> <p>1 10, so it's usually about 200, it's 200X, and 2 I'm looking at this at that size. I didn't put 3 a scale on this. Sometimes I would put a scale 4 on this because I use the same microscope and 5 have photographed a measurement scale and I can 6 just relate the size of the pictures to it and 7 the magnification, but I don't have one here. 8 But I tell you that it's at 200X, which is using 9 the 20X objective plus 10 -- or times 10 for the 10 eyepiece objectives. 11 Q. Any reason you didn't put a scale on 12 this one? 13 A. No. 14 Q. All right. After reviewing under 15 light microscopy, did you move to polarized 16 light? 17 A. That's correct. 18 Q. And explain the polarized light 19 microscopy to us, please. 20 A. Polarized light microscopy takes a 21 standard light microscope, and you usually turn 22 up the light a little brighter, and then you put 23 two sheets of basically a plastic material that 24 has its fibers lined up in a way that's going</p>
<p style="text-align: right;">Page 95</p> <p>1 Q. Tell us what psammoma bodies are, 2 please? 3 A. Psammoma bodies are thought to be 4 tumor that undergoes necrosis that may outgrow 5 its blood supply, and sort of drop off and form 6 kind of a basophilic body where you can still 7 see remnants of cells within it. And psammoma 8 bodies are sort of -- are often seen in the 9 tissue of ovarian cancer, as is calcification. 10 And actually psammoma bodies and calcifications 11 are part of the same spectrum, or thought to be 12 part of the same spectrum where a psammoma body 13 can eventually calcify. 14 So I guess if you were to define it, 15 it would be defined as debris from the tumor, 16 debris of cells of the tumor. 17 Q. And this Figure 1, is that a photo 18 micrograph? 19 A. Yes. 20 Q. And how was that taken? What type of 21 microscopy were you utilizing when you took 22 this? 23 A. This was a light microscope where I 24 have a field at 20X with a 20X objective plus</p>	<p style="text-align: right;">Page 97</p> <p>1 one direction, and you put this above the light 2 coming in, and then you have another below. So 3 when you're looking at this, you can sort of 4 start with them like this, and all the light 5 comes through. As you turn these, you get to a 6 point where very little light is coming through. 7 But when you're -- when you have it set so that 8 all the light is coming through in essentially a 9 straight path that's polarized, what will happen 10 is anything that is by refringent, like any 11 particle that is foreign, any particle that has 12 a different structure than tissue may show up as 13 a brighter light, as bright light or what we 14 call by refringence. 15 So that in this particular picture, we 16 have a couple of -- 17 Q. I'm sorry to interrupt. You're 18 talking about Figure 2 now? 19 A. We're talking about Figure 2. 20 Q. Okay. Go ahead. 21 A. And in Figure 2 now, if we look at 22 this you can see all the nucleus -- all the 23 nuclei are in focus. And as you look at the 24 material, the bright light material, you can see</p>

25 (Pages 94 to 97)

Confidential - John J. Godleski, M.D.

Page 98	Page 100
<p>1 somewhat plate light material that is by</p> <p>2 refringent here. Over here you see the same</p> <p>3 sort of thing.</p> <p>4 And in these smaller ones, you can see</p> <p>5 that there are some cellular material around it.</p> <p>6 In this one it doesn't have that characteristic</p> <p>7 (indicating).</p> <p>8 Q. By "this one," I'm sorry --</p> <p>9 A. These are the two that we're trying to</p> <p>10 illustrate here.</p> <p>11 Q. I apologize for interrupting, when you</p> <p>12 were referring to "this," you were pointing to</p> <p>13 the birefringent particle that's below the</p> <p>14 arrow, correct?</p> <p>15 A. Right.</p> <p>16 Q. And then there's a smaller one above</p> <p>17 the arrow?</p> <p>18 A. Well, actually there's three above the</p> <p>19 arrow, and three below the arrow in this</p> <p>20 particular field.</p> <p>21 Q. Okay. I was clustering them, but</p> <p>22 okay. Fair enough.</p> <p>23 A. And this picture is at 400X, which</p> <p>24 means I used the 40X objective on the microscope</p>	<p>1 surrounding them. So it's not really tissue,</p> <p>2 it's probably fibrin. But there's some pink</p> <p>3 material around it. I realize this is kind of a</p> <p>4 dark picture, but I think you can appreciate --</p> <p>5 you may not appreciate that in your black and</p> <p>6 white picture. But in this picture you can see</p> <p>7 that there's a little bit of red around the</p> <p>8 edges of those particles. These do not have</p> <p>9 any.</p> <p>10 Q. Okay. And when you say there's a</p> <p>11 little bit of red around those particles, you're</p> <p>12 talking about the ones that are --</p> <p>13 A. Uppers one.</p> <p>14 Q. The upper arrow?</p> <p>15 A. The upper arrow pointing to them.</p> <p>16 Q. And the ones that don't are below?</p> <p>17 A. Are below.</p> <p>18 Q. What, again, is the significance of</p> <p>19 that red in the part above the arrow?</p> <p>20 A. Well, I think the significance of the</p> <p>21 red here is that, in fact, there's tissue, some</p> <p>22 tissue reaction to this particle that it's</p> <p>23 coated with -- it may be just coated with</p> <p>24 fibrin, or it may be coated with some protein</p>
Page 99	Page 101
<p>1 times 10 for the eyepiece, or the lens going to</p> <p>2 the camera.</p> <p>3 Q. And what is the location of Figure 2?</p> <p>4 Is it located within Figure 1?</p> <p>5 A. No. They're actually from two</p> <p>6 different slides.</p> <p>7 Q. Okay.</p> <p>8 A. Figure 1 is from slide 8716R, and this</p> <p>9 is from slide 8716N.</p> <p>10 Q. Got you.</p> <p>11 Okay. And what is the significance of</p> <p>12 the birefringent material that's pictured in</p> <p>13 Figure 2; the fact that it's foreign material?</p> <p>14 A. It's foreign material. It's in the</p> <p>15 same plane of focus as the tissue, so what that</p> <p>16 would mean is that this is not laid on top of</p> <p>17 the tissue, that it is in -- it is within the</p> <p>18 tissue to start with.</p> <p>19 The other thing is that it's actually</p> <p>20 within a tissue space. It's not out on the</p> <p>21 surface.</p> <p>22 And then the other thing is that in</p> <p>23 looking carefully at the upper particulates,</p> <p>24 they look like they have a bit of tissue</p>	<p>1 secretion from the tumor. But the fact is that</p> <p>2 it's definitely not added extraneously in a</p> <p>3 laboratory. This was part of the tissue as it</p> <p>4 came from the patient.</p> <p>5 Q. And again, as we talked about earlier,</p> <p>6 you can't say when this material got into</p> <p>7 Ms. Blaes's body?</p> <p>8 A. No.</p> <p>9 Q. All right. After doing the polarized</p> <p>10 light microscopy, what did you do next?</p> <p>11 A. Well, next I asked for the blocks.</p> <p>12 Q. Okay.</p> <p>13 A. And after doing this study of all the</p> <p>14 slides, I thought the ones that had the most</p> <p>15 convincing talc or most convincing foreign</p> <p>16 material by polarized light studies were blocks</p> <p>17 M, N, O, and P. And so we asked for those</p> <p>18 blocks, and, in fact, they gave us all the</p> <p>19 blocks.</p> <p>20 Sometimes, rather than just trying to</p> <p>21 figure out which block you want, they send them</p> <p>22 all to you. Sometimes they give you one block</p> <p>23 as if it were a piece of gold, a large piece of</p> <p>24 gold. So in this case we received blocks.</p>

26 (Pages 98 to 101)

Confidential - John J. Godleski, M.D.

<p style="text-align: right;">Page 102</p> <p>1 Q. So what you indicated is that you 2 requested the blocks that had what you described 3 as the most convincing talc or foreign material 4 in them based on your light microscopy? 5 A. Yes. 6 Q. And once you obtained the blocks, why 7 don't you, in as much detail as you can just so 8 I understand it, tell me what you did upon 9 receipt of the tissue blocks, and how you get 10 them prepared for SEM, etcetera. 11 A. Okay. I'm going to give you some 12 historical background here. 13 Q. Good. 14 A. In the paper that we published in the 15 Berg case, we cut the -- we cut sections and 16 placed them onto carbon disks. This is an 17 accepted way to do this. This was the way that 18 I learned from John Shelburne to do this, and 19 others have done this in the past. And this is 20 the way we did it. 21 When we transferred those disks to the 22 defense in the Berg case, they were -- it was 23 important to manage those very carefully because 24 it was a thin slice, and some of them started to</p>	<p style="text-align: right;">Page 104</p> <p>1 people didn't want to do this. This was not an 2 accepted technique. 3 But in the end of the last century, 4 there were some developments in scanning 5 electron microscopy that came about, and one of 6 them was the development of a microscope called 7 an environmental scanning electron microscope, 8 and what this allowed you to do was not only to 9 put a paraffin block in there, but you could put 10 wet tissue into a scanning electron microscope, 11 and this had a differential system of pressure 12 that allowed you to pressurize the specimen 13 chamber so that it wasn't -- you could keep a 14 wet specimen in there, because before this it 15 was unheard of. You also didn't need to coat 16 the specimen because you could change the 17 pressure, lower -- and raise the pressure in the 18 specimen chamber while keeping the electron beam 19 under vacuum. So this was a big advance. And 20 environmental scanning EM was very expensive 21 because it had all these advances. 22 A number of companies, in fact almost 23 all the scanning electron microscopy companies, 24 came out with a device that wasn't quite the</p>
<p style="text-align: right;">Page 103</p> <p>1 lift off, and there was a lot of contention that 2 it could not be maintained, that these were 3 uninterpretable. And this is fine for 4 laboratory work, but we found that these carbon 5 disks don't hold the tissue all that well, and 6 that they do tend to come up, and it's a 7 problem. So we've used glue and other things in 8 the past. 9 There have been in recent years some 10 new approaches to this, and the new approach is 11 that what you do, rather than taking a slice off 12 of the block and transferring it to a carbon 13 disk, you can't put it on a slide because the 14 slide has silicon and glass and then you would 15 get -- you might get the signal from that, so 16 that's why it was always put on carbon. 17 But the new approach has been to take 18 a whole block and put it in the scanning 19 electron microscope. Now, why you couldn't do 20 this in the past is because if you put it into a 21 conventional scanning electron microscope, the 22 temperature would rise in the specimen chamber, 23 you would vaporize with the beam the paraffin 24 and essentially contaminate your microscope. So</p>	<p style="text-align: right;">Page 105</p> <p>1 environmental SEM, but was better, and allowed 2 you to do this kind of thing, and that was 3 called a variable pressure scanning EM. The 4 microscope that we have in our lab has this 5 variable pressure capability, and so instead of 6 doing it the way we did it before where we took 7 the tissue, put it on the carbon disk, and 8 essentially melted the paraffin out of it and 9 used it, we could do away with that step so it 10 didn't have to go back to the laboratory, we 11 could handle it all ourself in the lab. 12 And so what we do is we take the 13 block, we have a cleaned area, we have a cleaned 14 microtome, we put in a new clean blade, and we 15 take a couple of cuts off the surface of the 16 block. That gets rid of any contamination that 17 previously might have been added to the tissue, 18 and we're only into the block. 19 Now, by cutting fresh sections we've 20 also exposed new tissue, and so we can then put 21 this on to a chalk that holds it and put it 22 directly into our scanning electron microscope. 23 So now we're taking the paraffin blocks and 24 putting it in, so a lawyer doesn't have to come</p>

Confidential - John J. Godleski, M.D.

Page 106	Page 108
<p>1 from Texas, or wherever, to come and take the</p> <p>2 specimens from my hands to her hands to make</p> <p>3 sure that these are handled properly, and still</p> <p>4 not be, but now we have the whole block.</p> <p>5 And so all we do is after we've done</p> <p>6 the studies in the microscope, we put it back in</p> <p>7 a sealed container and we can hand it to you,</p> <p>8 you can give it to your expert, you can put --</p> <p>9 your expert can put it in the microscope himself</p> <p>10 if he has a variable pressure electron</p> <p>11 microscope and do these studies, or confirm our</p> <p>12 studies, or just look at our data, whatever he</p> <p>13 wants to do.</p> <p>14 Q. Okay. Let me ask you -- that may be a</p> <p>15 new record for longest answer to a question I've</p> <p>16 ever asked in a deposition, but I appreciate it.</p> <p>17 A. But it was all relevant.</p> <p>18 Q. I understand. I'm not complaining</p> <p>19 about it.</p> <p>20 A. Okay.</p> <p>21 Q. Taking some of that, your procedure</p> <p>22 and your process for reviewing this tissue was</p> <p>23 different in the Blaes case than it was in the</p> <p>24 Berg case, as you've described?</p>	<p>1 treating a patient, what reasons are there for</p> <p>2 you using a scanning electron microscope in the</p> <p>3 pathological analysis of patients' tissue in a</p> <p>4 hospital setting?</p> <p>5 A. Patient has a foreign -- a bit of</p> <p>6 foreign material in their breast, and they know</p> <p>7 that there was a wire put in there clinically,</p> <p>8 but they haven't been able to -- they found this</p> <p>9 material and they took it out, it's still not</p> <p>10 clear whether this is the wire that was put</p> <p>11 there, and that's what they need to find. They</p> <p>12 give me that wire, and I can analyze it and say,</p> <p>13 yes, this little bit of material that is now</p> <p>14 broken up into little pieces is the wire that</p> <p>15 you put there. That's one example. I can go on</p> <p>16 with many more. But there's reason to identify</p> <p>17 foreign material in tissues.</p> <p>18 Another instance, a patient has</p> <p>19 granulomatous disease in a thoracic lymph node.</p> <p>20 The granulomatous disease has a lot of what</p> <p>21 looks like foreign material in it. And the</p> <p>22 question is does this patient have sarcoidosis</p> <p>23 which typically has calcification, or did he get</p> <p>24 exposed in his job and it's the job that's</p>
Page 107	Page 109
<p>1 A. That's correct.</p> <p>2 Q. And is it correct -- do I understand</p> <p>3 you correctly that that was done in order to</p> <p>4 preserve the sample better, perhaps, than it was</p> <p>5 done in Berg?</p> <p>6 A. Exactly.</p> <p>7 Q. Now, if we go back and we take this</p> <p>8 case out of litigation, and we're in the</p> <p>9 pathology department at a hospital, is there any</p> <p>10 reason for the hospital and the doctors who are</p> <p>11 treating Ms. Blaes to utilize a scanning</p> <p>12 electron microscope in order to analyze this</p> <p>13 tissue?</p> <p>14 A. Most hospitals don't have them. Even</p> <p>15 Brigham & Women's Hospital doesn't have its own</p> <p>16 scanning electron microscope, they have a</p> <p>17 transmission electron microscope that they use</p> <p>18 in the pathology department. But the scanning</p> <p>19 electron microscope is in my lab, and so the</p> <p>20 department uses it, or I use it for the</p> <p>21 department.</p> <p>22 Q. Putting you in your position, what</p> <p>23 reasons are there, if at all, if you're treating</p> <p>24 a patient, the case is not in litigation,</p>	<p>1 creating the granulomas, so maybe he should stop</p> <p>2 doing that kind of work. And so they ask me to</p> <p>3 identify the material in the job. Is it the</p> <p>4 metals that he's involved in working with in his</p> <p>5 job, or is this all calcium and this is just</p> <p>6 another case of sarcoidosis, and we're chasing</p> <p>7 -- this guy doesn't have to quit his job.</p> <p>8 So I look at the tissue, I find --</p> <p>9 almost all the particulate that I find in there</p> <p>10 is calcium, and the granulomas with the calcium</p> <p>11 are more likely sarcoidosis than a reaction to</p> <p>12 any foreign material that he's getting in his</p> <p>13 job.</p> <p>14 These are the kinds of studies that we</p> <p>15 do. And people -- and other pathologists from</p> <p>16 outside hospitals send me material for these</p> <p>17 kinds of studies, we do it within the context of</p> <p>18 our own hospital.</p> <p>19 Q. All right.</p> <p>20 A. And these are usually reported in the</p> <p>21 clinical record as part of the pathology report,</p> <p>22 and it's not -- and these are not for</p> <p>23 litigation, these are for management of the</p> <p>24 patient.</p>

28 (Pages 106 to 109)

Confidential - John J. Godleski, M.D.

Page 110	Page 112
<p>1 Q. Okay. Again going back to the report,</p> <p>2 you got -- all blocks were provided by St.</p> <p>3 Mary's Health Center?</p> <p>4 A. Yes.</p> <p>5 Q. And then you say "For Study by SEM,</p> <p>6 the blocks were used as described by Abraham and</p> <p>7 Thackral" -- T-H-A-C-K-R-A-L -- "for assessment</p> <p>8 of particulate materials in paraffin imbedded</p> <p>9 tissue," correct?</p> <p>10 A. That's correct.</p> <p>11 Q. And the Abraham and Thackral paper</p> <p>12 that's being described there had to do with</p> <p>13 gadolinium, right?</p> <p>14 A. That's correct. But it was a general</p> <p>15 methodology for identifying material in tissue</p> <p>16 using the paraffin block rather than a section</p> <p>17 of the tissue.</p> <p>18 As far as I know, I mean this has been</p> <p>19 a technique that's been in development, that's,</p> <p>20 as far as I know, the first publication that</p> <p>21 used it as a clinical -- as part of a clinical</p> <p>22 study. And so we moved to this approach.</p> <p>23 Q. And you've moved to this approach, is</p> <p>24 that the approach that's generally accepted for</p>	<p>1 from all over the medical area, people needing</p> <p>2 scanning EM services, and this is one of the</p> <p>3 things we do. And we have the instrumentation.</p> <p>4 Q. Going on to the report, you indicate</p> <p>5 "The blocks were received in a plastic Ziploc</p> <p>6 bag," correct?</p> <p>7 A. Yes.</p> <p>8 Q. Who bagged them in the Ziploc bag?</p> <p>9 Was that at St. Mary's?</p> <p>10 A. Yes. And they're still in that Ziploc</p> <p>11 bag.</p> <p>12 Q. Do you have any knowledge as to</p> <p>13 whether talc was ever used in Ziploc bags?</p> <p>14 A. No. Doesn't matter.</p> <p>15 Q. You said "the blocks were handled</p> <p>16 using our standard protocol to assure no</p> <p>17 contamination of the blocks in our laboratory."</p> <p>18 Correct?</p> <p>19 A. Correct.</p> <p>20 Q. And then you go on to describe the</p> <p>21 protocol.</p> <p>22 A. Yes.</p> <p>23 Q. "Handling the blocks are particle free</p> <p>24 gloves" --</p>
Page 111	Page 113
<p>1 microscopists like yourself?</p> <p>2 A. Yes, if you have the variable pressure</p> <p>3 SEM, that's the way you do it.</p> <p>4 Q. You mentioned earlier a</p> <p>5 transmission -- a TEM, correct?</p> <p>6 A. Yes.</p> <p>7 Q. Do you all have that in your lab?</p> <p>8 A. Not anymore. We had a microscope that</p> <p>9 did electron energy loss microscopy and was a</p> <p>10 high quality instrument, but it was a high</p> <p>11 quality instrument in the '90s, not currently,</p> <p>12 so we actually sold it back to Zyse a couple of</p> <p>13 years ago when we renovated our lab.</p> <p>14 And Harvard has a center for</p> <p>15 microscopy over in Cambridge, and they have the</p> <p>16 latest energy loss spectroscopy microscopes, so</p> <p>17 if we have a reason to use it, we go there.</p> <p>18 We've kept the SEM because it was the</p> <p>19 -- and if we need routine transmission electron</p> <p>20 microscopy, that's available in Brigham &</p> <p>21 Women's Hospital pathology department. So we</p> <p>22 had no reason to continue it.</p> <p>23 But the scanning EM, we're one of the</p> <p>24 very few in the medical area, and I get requests</p>	<p>1 A. Yes.</p> <p>2 Q. -- "on pre-cleaned surfaces," right?</p> <p>3 A. Yes.</p> <p>4 Q. "And washing the blocks three times</p> <p>5 with double filtered deionized water to remove</p> <p>6 any impurities on the surface of the tissue,"</p> <p>7 correct?</p> <p>8 A. That's correct.</p> <p>9 Q. Do you know if that water is</p> <p>10 particulate-free?</p> <p>11 A. It absolutely is.</p> <p>12 Q. How do you know that?</p> <p>13 A. Because we filtered it, we look at it,</p> <p>14 we look at a dried spot, you don't see anything.</p> <p>15 Q. And how small are the particulates</p> <p>16 that the filtering system you all have -- could</p> <p>17 particulates get through the filtering system,</p> <p>18 in other words?</p> <p>19 A. Nanoparticles might, but anything that</p> <p>20 would be visible from our use wouldn't.</p> <p>21 Q. "Then air drying the freshly washed</p> <p>22 blocks in a covered container so that no air</p> <p>23 particulate contaminates the washed section"?</p> <p>24 A. That's correct.</p>

29 (Pages 110 to 113)

Confidential - John J. Godleski, M.D.

Page 114	Page 116
<p>1 Q. Do you guys utilize a pressure hood to</p> <p>2 do any of these actions, or a hood of any kind?</p> <p>3 A. For some of it. We don't cut them in</p> <p>4 a hood, but other than that, a lot of it is</p> <p>5 handled in a hood.</p> <p>6 So then the next is "the block is</p> <p>7 sectioned to remove the previously exposed block</p> <p>8 surface."</p> <p>9 Q. And you use a machine called a</p> <p>10 microtome?</p> <p>11 A. That's correct. And we usually -- the</p> <p>12 microtome cuts anywhere from 4 to 7-micron</p> <p>13 sections, and we usually take 2 or 3-micron</p> <p>14 sections -- 7-micron sections off.</p> <p>15 Q. Okay. And then you wash it again in</p> <p>16 double filtered deionized water. Then you note</p> <p>17 "The sample is then sputter coated with Au."</p> <p>18 That's gold, right?</p> <p>19 A. Yeah.</p> <p>20 Q. Can you explain why you do that?</p> <p>21 A. Well, there's two reasons. One is</p> <p>22 that it cuts down charging so that you don't get</p> <p>23 a lot of reflection of electrons, but the fact</p> <p>24 is the change in pressure of the microscope also</p>	<p>1 in the Berg case. This is -- this Hitachi</p> <p>2 system has a field emission gun, which is a</p> <p>3 better gun system. And the Oxford system is</p> <p>4 essentially the same, but it's newer, and it's</p> <p>5 an updated model. This instrument was just</p> <p>6 purchased new this year.</p> <p>7 Q. And then you mentioned the backscatter</p> <p>8 mode. Tell us what that means.</p> <p>9 A. Okay. There are several modes in the</p> <p>10 electron -- in the scanning electron microscope</p> <p>11 that you can use to get images, and the typical</p> <p>12 scanning electron microscopy image is done in</p> <p>13 what's called secondary electrons. So the</p> <p>14 electrons are bouncing off the surface, and</p> <p>15 they're coming off at a certain angle, and you</p> <p>16 have a detector that detects them in the</p> <p>17 secondary electrons.</p> <p>18 The backscattered electrons are</p> <p>19 collected in another detector in the electron</p> <p>20 microscope. And what they do is if you're</p> <p>21 looking at something that is all carbonaceous,</p> <p>22 but you have a -- but you're trying to find a</p> <p>23 particle, it works almost like polarized light</p> <p>24 with a light microscope, because the particulate</p>
Page 115	Page 117
<p>1 allows you to get around that.</p> <p>2 But the other thing is that once you</p> <p>3 do this, and this is all in sealed and under</p> <p>4 vacuum, if you then should happen to find a</p> <p>5 particle on there that isn't coated with gold,</p> <p>6 you know that's a contamination. So even though</p> <p>7 -- it's sort of the final check that anything</p> <p>8 we're identifying is not part of any</p> <p>9 contamination. So just taking the block from</p> <p>10 our sealed container and putting it into the</p> <p>11 microscope, if for some reason out of the air</p> <p>12 fell a talc particle, we would know it was a</p> <p>13 contamination because it wouldn't be coated with</p> <p>14 gold. So it's just -- for us it's another step</p> <p>15 to show that we're not dealing with</p> <p>16 contamination.</p> <p>17 Q. And then you describe the equipment</p> <p>18 that you utilized. You talk about this Oxford</p> <p>19 instrument software being Aztec 2.3?</p> <p>20 A. Yeah.</p> <p>21 Q. Is that the most updated software for</p> <p>22 this instrument?</p> <p>23 A. Yeah. We have our Zyse with the</p> <p>24 variable pressure and Oxford system that we used</p>	<p>1 material, that's going to have some crystalline</p> <p>2 as well as chemical structure that the</p> <p>3 backscatter mode will detect, and so you end up</p> <p>4 with an image that is quite dark with a really</p> <p>5 bright spot that's the particle. So it can</p> <p>6 allow you to see the particles a whole lot</p> <p>7 easier, and detect them, and allows you to work</p> <p>8 a little faster.</p> <p>9 Q. And looking at Figure 4, it says "SEM</p> <p>10 of talc particle in the tissue." Tell us what</p> <p>11 that is, other than what it already tells us.</p> <p>12 A. Okay. In looking at this, this is a</p> <p>13 particle that we see, it's in a space that very</p> <p>14 well could be either a lymphatic space, it's</p> <p>15 hard to tell on SEM, or it could be a tumor</p> <p>16 space that's similar to what we're looking at in</p> <p>17 Figure 2. I can't be sure in looking at this,</p> <p>18 but it's clearly a particle. And then the</p> <p>19 Figure 5 spectrum is the spectrum of the</p> <p>20 particle in Figure 4.</p> <p>21 And so that's why I can say it's a</p> <p>22 talc particle, because we've done the spectrum</p> <p>23 below and reported it below.</p> <p>24 Q. Which you indicated, based on your</p>

Confidential - John J. Godleski, M.D.

Page 118	Page 120
<p>1 data, is consistent with talc?</p> <p>2 A. Yes. So I've gone through and told</p> <p>3 you how the microscope is set up for this.</p> <p>4 Q. Let me ask you, it's on Page 2 of your</p> <p>5 report, and we referred to this before, I just</p> <p>6 want to make sure I'm clear, it says "All blocks</p> <p>7 were provided, but those studied included</p> <p>8 S08-8716 M, N, O, and P," correct?</p> <p>9 A. That's correct.</p> <p>10 Q. Were those all of the blocks that were</p> <p>11 studied? It says the studies included those, I</p> <p>12 just want to make sure those are all the --</p> <p>13 A. Actually, I believe only N and P were</p> <p>14 studies with scanning EM. You can see the</p> <p>15 number of hours put into this. And we find it,</p> <p>16 you know, we quantify a block, and then you have</p> <p>17 to say, you know, how many hours do you want to</p> <p>18 put into this, how much do you want to find.</p> <p>19 And finding what we found is, in our view, quite</p> <p>20 significant, so we did not do more.</p> <p>21 Q. Looking at the last page of your</p> <p>22 report, it says "In the study of blocks from</p> <p>23 Ms. Blaes, a total of 368 particles were found</p> <p>24 and analyzed," correct?</p>	<p>1 Q. All right. So you got 140 that had</p> <p>2 elemental composition indicative of foreign</p> <p>3 material, correct?</p> <p>4 A. That's right.</p> <p>5 Q. And tell me what you mean by elemental</p> <p>6 composition indicative of foreign material?</p> <p>7 A. For example, silica, titanium,</p> <p>8 aluminum, these are all more likely to be</p> <p>9 foreign rather than endogenous. And so if you</p> <p>10 can get talc into the tissues, there's no reason</p> <p>11 why you can't expect to have some dirt in there</p> <p>12 as well. I mean that's the way it is. And</p> <p>13 that's what we essentially find in every case,</p> <p>14 that you have a certain number that we can</p> <p>15 identify as talc, we have a certain number that</p> <p>16 have other composition.</p> <p>17 Q. And with regard to the 140 foreign</p> <p>18 particles, did you analyze what they were?</p> <p>19 A. Yep.</p> <p>20 Q. What were they? You say a variety of</p> <p>21 materials.</p> <p>22 A. They're all on here. You can look at</p> <p>23 them.</p> <p>24 Q. I can't wait.</p>
Page 119	Page 121
<p>1 A. That's right.</p> <p>2 Q. And then you go on to talk about</p> <p>3 tissues that may have carbonaceous material, or</p> <p>4 sodium, phosphorus and calcium may be found, but</p> <p>5 that those would be endogenous to the tissue in</p> <p>6 this type of study?</p> <p>7 A. That's correct. That goes back to</p> <p>8 this -- especially this calcium that I'm showing</p> <p>9 you that we can see in the light microscope, and</p> <p>10 it's all over the place in the electron</p> <p>11 microscope. And so as we are doing these, we</p> <p>12 can look at particles, but at the same time we</p> <p>13 don't want to say, okay, I'm going to just</p> <p>14 cherry-pick these particles because we think</p> <p>15 that's what they ought to look like. We're</p> <p>16 looking at all the particles that come up.</p> <p>17 And so in the areas that we've studied</p> <p>18 here, we ended up with 368 particles, but since</p> <p>19 we've analyzed them we can tell you what their</p> <p>20 composition is, and of those, a lot of them are</p> <p>21 really endogenous. And so you can really</p> <p>22 discard those, but at the same time it's part of</p> <p>23 the work that we do, so, you know, we end up</p> <p>24 reporting them.</p>	<p>1 A. Have fun.</p> <p>2 Q. Can you recall what types of materials</p> <p>3 you identified from the foreign material?</p> <p>4 A. Yeah. If it's aluminum and silicon,</p> <p>5 it's not talc, but it's foreign material. You</p> <p>6 shouldn't have aluminum silicon particles in</p> <p>7 your tissue unless it's coming from the outside.</p> <p>8 And surprisingly, there's a lot of that in our</p> <p>9 tissues.</p> <p>10 Q. A lot of materials coming from the</p> <p>11 outside?</p> <p>12 A. There is materials coming from the</p> <p>13 outside.</p> <p>14 Q. Again, through the means that we</p> <p>15 talked about earlier, inhalation, right?</p> <p>16 A. Well, I think we're really</p> <p>17 concentrating on perineal.</p> <p>18 Q. Okay.</p> <p>19 A. You go to the beach, you get sand in</p> <p>20 your bathing suit, maybe that's where some of</p> <p>21 it's coming from.</p> <p>22 Q. But you can get foreign materials</p> <p>23 other than talc in your body through other</p> <p>24 means, such as inhalation?</p>

Confidential - John J. Godleski, M.D.

Page 122	Page 124
<p>1 A. You can.</p> <p>2 Q. Ingestion?</p> <p>3 A. Yeah.</p> <p>4 Q. Actually you can even get it through</p> <p>5 the skin, correct?</p> <p>6 A. Well, especially if you have openings</p> <p>7 in the skin.</p> <p>8 Q. All right. You said that 33 of these</p> <p>9 particles were identified as having magnesium</p> <p>10 and silicon in the proper ratio for</p> <p>11 identification of talc, but with other elements</p> <p>12 present, usually large amounts of calcium,</p> <p>13 correct?</p> <p>14 A. Yes.</p> <p>15 Q. Did you identify what those were,</p> <p>16 those particles were?</p> <p>17 A. They're all in here. And I have</p> <p>18 examples in the other thing that I provided to</p> <p>19 you.</p> <p>20 Q. Why don't we pull that out. Is that</p> <p>21 what we're talking about?</p> <p>22 A. Yes.</p> <p>23 Q. Why don't you help me cross-reference</p> <p>24 that now with that comment.</p>	<p>1 Q. Okay. Thanks.</p> <p>2 A. Okay. And then here's another one</p> <p>3 where we have, again, the magnesium silicate</p> <p>4 signal that's again in the ratio, but we have</p> <p>5 kind of an overwhelming calcium phosphorous</p> <p>6 signal.</p> <p>7 And then we have another one that</p> <p>8 again has a magnesium/silicate signal that's</p> <p>9 very weak, but there's a whole lot of other</p> <p>10 things, including a big carbon signal, a big</p> <p>11 iron signal, and others. So we have a lot of</p> <p>12 different things in here.</p> <p>13 Then here's another one with a</p> <p>14 relatively weak, but similar -- but appropriate</p> <p>15 ratio signal of magnesium/silicate with a big</p> <p>16 calcium phosphorous signal.</p> <p>17 Q. And that's the last page of that?</p> <p>18 A. That's the last page.</p> <p>19 So we've identified those, so we have</p> <p>20 our specific six particles that are talc alone,</p> <p>21 we have all these other particles that have</p> <p>22 various other components with them. So what</p> <p>23 this does is provide more examples. And if you</p> <p>24 want to see every one out of the 368, they're on</p>
Page 123	Page 125
<p>1 A. So this is Exhibit 5. And in</p> <p>2 Exhibit 5 I have just some of the preparative</p> <p>3 steps laid out, and I have bigger pictures of</p> <p>4 the block mount. And then I have larger</p> <p>5 pictures of some of the talc. And so that I</p> <p>6 have, actually, all six of the talc particles</p> <p>7 that are in the tissue with pictures of them in</p> <p>8 the context of the tissue, as well as the</p> <p>9 spectrum. And then I have some examples of the</p> <p>10 magnesium silicate signal with other material.</p> <p>11 And here's an example where we</p> <p>12 actually have a lot of sodium chloride in the</p> <p>13 field, and whether that is -- in that -- and so</p> <p>14 we have a talc signal, but yet the sodium</p> <p>15 chloride signal is very large.</p> <p>16 Q. Which figure?</p> <p>17 A. And there's also calcium and potassium</p> <p>18 there.</p> <p>19 Q. Why don't you identify the figure</p> <p>20 you're talking about, or the page from the</p> <p>21 exhibit?</p> <p>22 A. It's not -- it's just with a heading</p> <p>23 "strong magnesium signal/magnesium silicate</p> <p>24 signal with sodium chloride."</p>	<p>1 the disk.</p> <p>2 Q. And with regard to the other foreign</p> <p>3 materials other than what you identified as</p> <p>4 talc, were you able to rule those out as</p> <p>5 potential causes for Ms. Blaes's ovarian cancer?</p> <p>6 A. There's no known association for the</p> <p>7 others.</p> <p>8 Q. And you referred a number of times --</p> <p>9 we talked about earlier a little bit, I just</p> <p>10 want to make sure I'm clear, you referred to six</p> <p>11 of these particles identified as only having</p> <p>12 magnesium, silicon, and oxygen in the</p> <p>13 proportions expected with talc. What are those</p> <p>14 proportions?</p> <p>15 A. Well, it's in this range where by</p> <p>16 weight it's like 11-to-10, and by count it's a</p> <p>17 ratio of about 1-to-1.3.</p> <p>18 Q. 1-to-1.3.</p> <p>19 With regard to the 140 foreign</p> <p>20 particles other than the talc, you obviously</p> <p>21 don't specifically know how those got into her</p> <p>22 body, correct?</p> <p>23 A. That's correct.</p> <p>24 Q. Then the next paragraph talks about</p>

32 (Pages 122 to 125)

Confidential - John J. Godleski, M.D.

Page 126	Page 128
<p>1 the fact that this technique used here -- do you 2 need some more water or something? Are you 3 okay? 4 A. I'm okay. 5 Q. We're probably going to break maybe in 6 ten minutes or so. 7 A. Okay. 8 Q. It says "The technique used here 9 examines an extremely small volume of tissue." 10 And you say "Comparable studies have been done 11 with asbestos fibers in tissue sections" -- 12 citing to Roggli -- "and the finding of one 13 fiber in a tissue section comparable to the 14 amount of tissue studied here would indicate at 15 least 100 fibers per gram of tissue which is 16 indicative of a substantial exposure." 17 I guess my question is, that 100 18 fibers per gram of tissue there is referring to 19 the Roggli study, correct? 20 A. Yes. 21 Q. Then you go on and say "If similar 22 approaches were applied to the findings of this 23 study" -- meaning the study you did of 24 Ms. Blaes's tissue, correct?</p>	<p>1 looking at glass slides, and they had glass 2 slides, and they had tissue digest of lung 3 tissue. And what they did was they determined 4 how many they could count in the slide, and what 5 that translated to in terms of digestion count. 6 And what they found was that if you could see 7 one asbestos fiber in a 2-by-2 centimeter square 8 piece of tissue, and actually we're looking at 9 roughly about that size here in this case, that 10 this was very significant. Now, it's true an 11 asbestos fiber is long, but we're talking about 12 hits based on a tissue slice. 13 Now, the other thing that's important 14 in this is the depth. And so when you're 15 talking about a histologic section on a slide, 16 you're talking about something that's somewhere 17 between 4 and 7-microns in thickness, and so the 18 thickness comes into play with this. And if you 19 think about the weight of that tissue that's on 20 a slide, it's minuscule compared to the whole 21 volume of tissue, so it's actually -- a slide is 22 a very small sample of tissue. 23 Now, even though we're looking at the 24 whole block here, the depth to which we go into</p>
Page 127	Page 129
<p>1 A. That's correct. 2 Q. -- "indications are that substantial 3 amounts of talc were present in this patient," 4 correct? 5 A. That's correct. 6 Q. And I want to understand your basis 7 for that statement. Obviously you've cited to 8 the Roggli studies, correct? 9 A. Yes. 10 Q. Those have to do with asbestos fibers, 11 correct? 12 A. That's correct. 13 Q. And you yourself in your paper that we 14 talked about earlier that you co-authored along 15 with Dr. Cramer said that asbestos is 16 structurally quite different than talc, correct? 17 A. That's correct. 18 Q. And that structural difference could 19 significantly impact this analysis in terms of 20 extrapolating from one tissue to X particles? 21 A. Only in a positive way, that is -- 22 okay, let's talk about these studies for a 23 second. 24 The Roggli study essentially was</p>	<p>1 the block with the scanning EM is very shallow. 2 And so that's one of the points that I make in 3 this, is that when we're looking at this with 4 SEM, the electron beam penetration is only 2 and 5 a half micrometers. So we're really very, very 6 shallow into the tissue in order to see this. 7 Now, the same would be true if we cut 8 a 7-micron slice and put it on the wafer, we're 9 still looking very superficially depth-wise. 10 That's why the relationship to the Roggli study 11 is appropriate for this, because what it does is 12 it's looking for hits of foreign material in a 13 slide which is, say, 4-microns thick, and with 14 asbestos and asbestos bodies you can see those a 15 little better. Here we're only going 2 and a 16 half microns deep in terms of what our scanning 17 electron microscope beam can penetrate and see. 18 And so it's just making the point that we've 19 studied a very, very small amount of tissue, and 20 that's the point of that. 21 And so if you think of, you know, the 22 ovary, and in this case probably being around 23 this big or so, then -- and in 3 dimensions, 24 we've looked at an exceedingly tiny fraction of</p>

33 (Pages 126 to 129)

Confidential - John J. Godleski, M.D.

<p style="text-align: right;">Page 130</p> <p>1 that mass.</p> <p>2 Q. And if I understand you correctly,</p> <p>3 you're trying to make the point that we've</p> <p>4 studied a tiny amount of the mass, right?</p> <p>5 A. Yes.</p> <p>6 Q. You're not necessarily trying to</p> <p>7 extrapolate from the asbestos study and go with</p> <p>8 a 1-to-100 fiber, or particle ratio, right?</p> <p>9 MR. SMITH: Object to form.</p> <p>10 A. No. Well, I'm using the Roggli study</p> <p>11 as the basis of doing that kind of</p> <p>12 extrapolation. And what's more likely than not</p> <p>13 in this instance is that there are many, many</p> <p>14 more particles than what Roggli found in these</p> <p>15 kinds of studies. So if he found 100 -- if he</p> <p>16 saw one fiber and could extrapolate that to 100,</p> <p>17 it's more likely that finding six particles in</p> <p>18 this instance probably extrapolates to something</p> <p>19 like 6,000 per gram or per milligram, because</p> <p>20 we're looking at micrograms of tissue.</p> <p>21 BY MR. FERGUSON:</p> <p>22 Q. Has anyone done the Roggli type of</p> <p>23 analysis, to your knowledge, with talc</p> <p>24 particles?</p>	<p style="text-align: right;">Page 132</p> <p>1 AFTERNOON SESSION</p> <p>2 1:22 O'CLOCK P.M.</p> <p>3</p> <p>4 BY MR. FERGUSON:</p> <p>5 Q. Doctor, we've taken a lunch break.</p> <p>6 Are you ready to proceed?</p> <p>7 A. Yes.</p> <p>8 Q. One thing that -- and I know I've</p> <p>9 asked you about this before, but I'm just not</p> <p>10 totally clear, which is the conclusion in your</p> <p>11 report that "It can be stated to a reasonable</p> <p>12 degree of medical certainty that the talc found</p> <p>13 in this case is evidence for a causal link</p> <p>14 between the presence of talc and the development</p> <p>15 of this patient's ovarian cancer." And I guess,</p> <p>16 does that mean that your opinion is that this --</p> <p>17 finding talc in Ms. Blaes's ovary is evidence</p> <p>18 that supports that, or does that prove the</p> <p>19 causal link, I think is my question.</p> <p>20 A. I think to a reasonable degree of</p> <p>21 medical certainty, based on the body of</p> <p>22 knowledge, the epidemiology, and finding talc in</p> <p>23 the ovary with cancer links the presence of talc</p> <p>24 with the development of cancer in this patient.</p>
<p style="text-align: right;">Page 131</p> <p>1 A. No.</p> <p>2 Q. So you're extrapolating from a study</p> <p>3 done regarding a substance that is structurally</p> <p>4 quite different than talc, correct?</p> <p>5 A. It's true an asbestos fiber has more</p> <p>6 chance of being seen because of the length of</p> <p>7 the asbestos fiber. But at the same time, the</p> <p>8 talc has much less chance of being seen, and so</p> <p>9 that's why the numbers that we find are more</p> <p>10 significant, in my view.</p> <p>11 MR. FERGUSON: Do you want to go ahead</p> <p>12 and take a break?</p> <p>13 MR. SMITH: Yes, sir.</p> <p>14 (Whereupon, a luncheon recess was</p> <p>15 taken at 12:07 p.m.)</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p>	<p style="text-align: right;">Page 133</p> <p>1 Q. And --</p> <p>2 A. That's not a short answer. I've got</p> <p>3 to get that shorter.</p> <p>4 Q. You're fine. Answer how you need to.</p> <p>5 So would you agree that the mere fact</p> <p>6 that finding a particle of foreign material next</p> <p>7 to or attached to a cancerous tumor does not</p> <p>8 automatically mean that particle causes the</p> <p>9 tumor?</p> <p>10 A. With no other knowledge in a case, for</p> <p>11 example the reason that not saying that aluminum</p> <p>12 silicate particle causes the tumor, is because</p> <p>13 there's no body of knowledge to support that,</p> <p>14 whereas with talc there's a body of knowledge</p> <p>15 that supports the conclusion that talc is</p> <p>16 associated, and the next step is that, in fact,</p> <p>17 we find talc is at the site of the cancer, and</p> <p>18 that strengthens that association.</p> <p>19 Q. So I think going back to my question,</p> <p>20 not even talking about what particle it is, the</p> <p>21 mere fact that you find a particle of material</p> <p>22 next to or attached to a tumor does not</p> <p>23 automatically mean that the particle caused the</p> <p>24 tumor, correct?</p>

Confidential - John J. Godleski, M.D.

Page 134	Page 136
<p>1 A. That's correct.</p> <p>2 Q. And it doesn't automatically lead you</p> <p>3 to the conclusion, okay, I've got a particle and</p> <p>4 I've got a tumor, therefore the particle caused</p> <p>5 the tumor?</p> <p>6 A. That's correct.</p> <p>7 Q. All right. What you're saying is</p> <p>8 finding the particle in combination with what</p> <p>9 you describe as the body of literature is what</p> <p>10 leads you to that conclusion?</p> <p>11 A. That's correct.</p> <p>12 Q. And I think we covered earlier that</p> <p>13 you're not an epidemiologist, correct?</p> <p>14 A. That's correct.</p> <p>15 Q. You're not in a position of being the</p> <p>16 expert who can analyze the strength and validity</p> <p>17 of those epidemiological studies in this regard,</p> <p>18 correct?</p> <p>19 A. No, I'm a scientist that reads the</p> <p>20 epidemiological literature all the time, so that</p> <p>21 I can read this with a level of knowledge that</p> <p>22 allows me to accept or reject this as a body of</p> <p>23 knowledge that is worthy of consideration.</p> <p>24 Q. And you're considering it, right?</p>	<p>1 the epidemiological body of literature because</p> <p>2 that wasn't your charge, correct?</p> <p>3 A. That's correct.</p> <p>4 Q. I always think of things over lunch,</p> <p>5 so I'm skipping around a little bit.</p> <p>6 Looking at Exhibit 6, which is the</p> <p>7 invoice that you brought for this case, there</p> <p>8 are charges of \$11,300 -- I guess I should read</p> <p>9 it more carefully. There's a total billing of</p> <p>10 \$27,600, correct?</p> <p>11 A. That's correct.</p> <p>12 Q. And there were a couple of payments,</p> <p>13 leaving an amount due, at least as of the time</p> <p>14 this was produced, of \$11,300, correct?</p> <p>15 A. That's correct.</p> <p>16 Q. With regard to the \$27,600 that is due</p> <p>17 and owing here, and either has or will be paid,</p> <p>18 is that something that goes to you personally,</p> <p>19 Dr. Godleski, or does it go to some other</p> <p>20 entity?</p> <p>21 A. This bill goes to my lab.</p> <p>22 Q. So of the bill we're looking at --</p> <p>23 A. I'm not doing that many hours of</p> <p>24 electron microscopy all by myself.</p>
Page 135	Page 137
<p>1 It's worthy of consideration, and you're</p> <p>2 considering this issue?</p> <p>3 MR. SMITH: Object to form.</p> <p>4 A. It's something that I would apply.</p> <p>5 BY MR. FERGUSON:</p> <p>6 Q. I suppose what I'm trying to establish</p> <p>7 is that you're primarily relying on others, such</p> <p>8 as Dr. Cramer, to analyze the body of</p> <p>9 epidemiological literature in this case in order</p> <p>10 to make your link with the particle and the</p> <p>11 epidemiological body of knowledge, correct?</p> <p>12 A. There's a body of knowledge in the</p> <p>13 scientific literature, and in my -- in what I do</p> <p>14 as part of that is to find the material at the</p> <p>15 site of the tumor.</p> <p>16 Q. And that was your charge in this case,</p> <p>17 was to see if there were particles of talc in or</p> <p>18 around the tumor, correct?</p> <p>19 A. That's correct.</p> <p>20 Q. And if we look at your report, that's</p> <p>21 what your report focuses on, correct?</p> <p>22 A. That's correct.</p> <p>23 Q. Your report, maybe unlike some other</p> <p>24 reports in this case, did not focus on analyzing</p>	<p>1 Q. Okay. And fair enough. So maybe I</p> <p>2 should have done this earlier, because I was not</p> <p>3 looking at this perhaps right.</p> <p>4 The hours here are not all your hours?</p> <p>5 A. Well, they are hours that I've in some</p> <p>6 way participated in either overseeing or looking</p> <p>7 with the person, but not necessarily looking</p> <p>8 continuously.</p> <p>9 Q. For example, the January 23, 2015</p> <p>10 entry is two hours, cost per hour is stated to</p> <p>11 be \$400, for a total of \$800?</p> <p>12 A. That's my work.</p> <p>13 Q. And that's your work?</p> <p>14 A. Yes.</p> <p>15 Q. Below that it says "Preparation of</p> <p>16 blocks for SEM study," and it's two hours at</p> <p>17 \$100 per hour. So that, I assume, would not be</p> <p>18 your work?</p> <p>19 A. That's correct.</p> <p>20 Q. Not that you didn't oversee it, I'm</p> <p>21 not trying to imply anything like that.</p> <p>22 A. Right.</p> <p>23 Q. So as we look down this bill in the</p> <p>24 Blaes case, it appears that a number of the</p>

Confidential - John J. Godleski, M.D.

Page 138	Page 140
<p>1 costs per hour, most of the costs per hour are 2 less than 400, and then there are, I don't know, 3 five or six or seven entries which are \$400 an 4 hour, correct? 5 A. That's correct. 6 Q. Am I correct, then, that the \$400 7 billing rate is yours? 8 A. That's correct. 9 Q. And we can assume that those hours 10 were actually spent by you, correct? 11 A. Yeah. 12 Q. And the other hours were spent by 13 others under your supervision? 14 A. That's correct. And in most instances 15 I'm there or looking in, but not running the 16 microscope myself all the time. 17 Q. All right. So with regard to the -- 18 let's take the entries, and it looks like two 19 hours, five hours, three hours, and two hours, I 20 think that's 12 hours, if my math is correct, at 21 \$400 an hour, that's all your work? That's all 22 your work, not that you don't have other work in 23 other parts, right? 24 A. Mm-hmm.</p>	<p>1 out the second page of Exhibit 6 which said 2 "Please make payment to president and fellows of 3 Harvard University," and send payment to an 4 individual named Carlos Silva? 5 A. That's correct. 6 Q. So if, for example, you are working on 7 another case next month, would the billing be 8 similar? For example, that the work done in the 9 lab would be paid to the lab, and the work done 10 sitting in a deposition or presumably trial 11 testimony would be paid to you personally? 12 A. That's correct. 13 Q. In the Harvard system, and I'm sure 14 it's very simple to understand, if you get a 15 grant of some kind that is your -- that your 16 work brought in the grant, do you get some kind 17 of credit for that in the system somehow as far 18 as your seniority or your pay or anything? 19 A. No. 20 Q. And probably that's so complicated I 21 wouldn't even want to get into it. 22 Does this work brought in through your 23 efforts that is being paid to the lab, the 24 27,600, is that treated much like a grant, in</p>
Page 139	Page 141
<p>1 Q. Correct? 2 A. That's correct. 3 Q. What happens to that, I think, 4 \$4,800 -- am I doing that right? -- does that 5 money go to you, Dr. Godleski, or does that go 6 to the lab? 7 A. To the lab. That goes to the lab. 8 Q. And then the other items for work by 9 others, does that go to the lab as well? 10 A. Yes, to pay those others. 11 Q. Okay. Are there payments made to you 12 as an individual, Dr. Godleski, for your work on 13 the Blaes case? 14 A. Not yet. 15 Q. Not yet. And tell me what type of 16 work you would be paid for directly? 17 A. Today you'll pay me directly. 18 Q. So, for example, the "preparation of 19 report" and "finalize report" entries which 20 total five hours here, even those would go to 21 the lab rather than you? 22 A. Yes. You can see who the check is to 23 be made out to. 24 Q. And you're looking at -- you pointed</p>	<p>1 that it's money that you brought in due to your 2 efforts to the lab? 3 A. Yes. 4 Q. And my question really is, do you get 5 some sort of either direct or indirect benefit 6 by having this money paid to your lab due to 7 your work in this case? 8 A. Well, my -- as you've already pointed 9 out, that I will be billing directly for 10 testimony, and at the same time my lab gets 11 money for this. Our billing charges, I get 12 requests for those weekly, bi-weekly, you know, 13 for sure at least once a month that somebody is 14 inquiring about availability of support from 15 electron microscopy, and what they get is the 16 billing information that I gave you. And 17 usually what we require is that they have a 18 purchase order, usually not to exceed 3,000, 19 5,000, depending on what the project is. And we 20 work off that project -- we work off that 21 purchase order, and they are billed. And the 22 bill -- the money comes back into the lab. It's 23 what's called a billing account, and a lot of 24 laboratories here have them. It's a standard</p>

36 (Pages 138 to 141)

Confidential - John J. Godleski, M.D.

Page 142	Page 144
<p>1 procedure.</p> <p>2 Q. And again, I'm not trying to beat this</p> <p>3 topic too badly, but what I'm trying to</p> <p>4 understand is, does it benefit you as far as</p> <p>5 your salary, benefits, or seniority at Harvard</p> <p>6 to have your lab bring in money in the form of</p> <p>7 these payments in these litigated cases?</p> <p>8 A. Yes.</p> <p>9 Q. We were talking before lunch about the</p> <p>10 fact that you were -- and I don't want to go</p> <p>11 back through it all, the testimony is what it</p> <p>12 is, but having to do with the Roggli study with</p> <p>13 regard to asbestos fibers and extrapolating out</p> <p>14 how many fibers might be in a particular area,</p> <p>15 and you talked about that in relationship to</p> <p>16 talc, correct?</p> <p>17 A. Yes.</p> <p>18 Q. Okay. I don't want to re-ask all</p> <p>19 those questions.</p> <p>20 Have you ever seen an article by</p> <p>21 Henderson and others from 1971 called "Talc and</p> <p>22 Carcinoma of the Ovary and Cervix"? Did you</p> <p>23 ever see this article before?</p> <p>24</p>	<p>1 change this exhibit sticker. I noticed when I</p> <p>2 was copying this yesterday that our toner was</p> <p>3 low, so my apologies, my fault. I don't know</p> <p>4 how to change the toner.</p> <p>5 Okay. Some things are a little harder</p> <p>6 to read, but I think this one is easy enough to</p> <p>7 read. On Page 271, the right-hand column.</p> <p>8 A. The right-hand column. Okay.</p> <p>9 Q. The first full paragraph. And you see</p> <p>10 seven lines down the sentence starting "The talc</p> <p>11 particles."</p> <p>12 A. Okay.</p> <p>13 Q. It says "The talc particles were found</p> <p>14 localized deep within tumor tissues, and not</p> <p>15 universally dispersed throughout the tumor,"</p> <p>16 correct?</p> <p>17 A. Yes.</p> <p>18 Q. Would you agree that talc particles</p> <p>19 found in a tumor would be found localized deep</p> <p>20 within the tumor tissues, and would not be</p> <p>21 universally dispersed throughout the tumor?</p> <p>22 A. I guess that's a reasonable statement.</p> <p>23 Q. You're allowed to look at that, but I</p> <p>24 think I'm done with that.</p>
Page 143	Page 145
<p>1 (Whereupon, Godleski Exhibit Number</p> <p>2 16, Henderson, et al article titled</p> <p>3 Talc and Carcinoma of the Ovary and</p> <p>4 Cervix, was marked for</p> <p>5 identification.)</p> <p>6 BY MR. FERGUSON:</p> <p>7 Q. It's been around a while.</p> <p>8 A. I don't recall if I've seen it or not.</p> <p>9 Q. Okay. I just want to ask you about</p> <p>10 one sentence in it. Look at Page 271, and</p> <p>11 discussing the presence of talc in the tissue of</p> <p>12 the tumors, it says "The talc particles were</p> <p>13 found localized deep within tumor tissues, and</p> <p>14 not universally dispersed throughout the tumor."</p> <p>15 A. Okay.</p> <p>16 Q. Page 271, the right-hand column, the</p> <p>17 first full paragraph, about halfway. Do you</p> <p>18 see, start "The talc particles were found</p> <p>19 localized deep within tumor tissues, and not</p> <p>20 universally dispersed throughout the tumor."</p> <p>21 Do you see that?</p> <p>22 A. Could you give me your copy, or a</p> <p>23 better copy? See, this is unreadable.</p> <p>24 Q. I will absolutely. I'm going to</p>	<p>1 A. Okay.</p> <p>2 Q. I don't want to interrupt your reading</p> <p>3 pleasure.</p> <p>4 With regard to the talc particles that</p> <p>5 you saw in the tissue that you analyzed for</p> <p>6 Ms. Blaes, did you see inflammation or</p> <p>7 granulomas surrounding the top particles?</p> <p>8 A. No.</p> <p>9 Q. Is that significant to you at all,</p> <p>10 that there were not granulomas or inflammation</p> <p>11 surrounding the particles?</p> <p>12 A. No.</p> <p>13 Q. With regard to your opinion in this</p> <p>14 case -- well, you made reference to the body of</p> <p>15 literature, and I think you've indicated to us</p> <p>16 what you think the body of literature regarding</p> <p>17 talc and ovarian cancer is, correct?</p> <p>18 A. Yes.</p> <p>19 Q. If, in fact, Dr. Cramer in his</p> <p>20 articles regarding talc and ovarian cancer, and</p> <p>21 the fact that talc causes ovarian cancer, if</p> <p>22 he's wrong, then your opinion is incorrect, too,</p> <p>23 right?</p> <p>24 MR. SMITH: Object to form.</p>

37 (Pages 142 to 145)

Confidential - John J. Godleski, M.D.

Page 146	Page 148
<p>1 A. Well, you're proposing a hypothetical.</p> <p>2 And scientifically you'd look at the literature,</p> <p>3 and if you have multiple people finding</p> <p>4 essentially the same thing, you know, it's hard</p> <p>5 to deal with a hypothetical that says, well,</p> <p>6 this may be totally wrong.</p> <p>7 BY MR. FERGUSON:</p> <p>8 Q. Okay. So you disagree, you think it's</p> <p>9 not wrong? The hypothesis that talc causes</p> <p>10 ovarian cancer is not wrong in your opinion?</p> <p>11 A. That's correct.</p> <p>12 Q. You realize there are studies and</p> <p>13 authors who disagree with that conclusion,</p> <p>14 correct?</p> <p>15 A. Yeah, there have been some studies</p> <p>16 that have failed to find the exact same thing.</p> <p>17 Q. And there are governmental, or</p> <p>18 international, or quasi-governmental bodies that</p> <p>19 have concluded otherwise as well, correct?</p> <p>20 MR. SMITH: Object to form.</p> <p>21 A. Well, IARC lists it as a carcinogen.</p> <p>22 BY MR. FERGUSON:</p> <p>23 Q. Does it? What does IARC say?</p> <p>24 A. It's a B.</p>	<p>1 Q. And you understand that under the IARC</p> <p>2 definitions, the group 2B is a category that's</p> <p>3 used for agents for which there is limited</p> <p>4 evidence of carcinogenicity in humans, and less</p> <p>5 than sufficient evidence of carcinogenicity in</p> <p>6 experimental animals, or inadequate evidence of</p> <p>7 carcinogenicity in humans but sufficient</p> <p>8 evidence of carcinogenicity in experimental</p> <p>9 animals. Is that your understanding?</p> <p>10 A. That's correct.</p> <p>11 Q. So do you agree that there is either</p> <p>12 limited evidence of carcinogenicity in humans,</p> <p>13 or inadequate evidence of carcinogenicity in</p> <p>14 humans?</p> <p>15 A. I think there's adequate. I think the</p> <p>16 fact that they're acknowledging that it can be a</p> <p>17 carcinogen puts it into that category.</p> <p>18 Q. So did you say there is adequate</p> <p>19 evidence of carcinogenicity?</p> <p>20 A. I believe, in my opinion, there's</p> <p>21 adequate.</p> <p>22 Q. But --</p> <p>23 A. And to the extent that they've listed</p> <p>24 it, it's something that they're identifying.</p>
Page 147	Page 149
<p>1 Q. It's what?</p> <p>2 A. It is on their list, and I think, as</p> <p>3 they define it, it's in the B category.</p> <p>4 Q. It's in 2B, correct?</p> <p>5 A. 2B.</p> <p>6 Q. That's a possible carcinogen, correct?</p> <p>7 A. That's correct. But it's listed.</p> <p>8 Q. It's listed as a possible carcinogen?</p> <p>9 A. It's listed.</p> <p>10 Q. You're not saying it's possible,</p> <p>11 right? You're giving an opinion that more</p> <p>12 likely than not it is a carcinogen?</p> <p>13 A. We know it's associated.</p> <p>14 Q. You understand that the IARC monograph</p> <p>15 says that Group 2B, as we talked about, is</p> <p>16 possibly carcinogenic to humans, correct?</p> <p>17 A. That's correct.</p> <p>18 Q. They have other groups that are</p> <p>19 probably carcinogenic, correct?</p> <p>20 A. Yes.</p> <p>21 Q. Or is carcinogenic even, correct?</p> <p>22 A. Mm-hmm.</p> <p>23 Q. Yes?</p> <p>24 A. Yes.</p>	<p>1 Q. But IARC doesn't say there's adequate</p> <p>2 evidence in humans, does it?</p> <p>3 A. Not by that definition.</p> <p>4 Q. And that definition is right from the</p> <p>5 IARC monograph, correct?</p> <p>6 A. Mm-hmm.</p> <p>7 Q. Yes?</p> <p>8 A. Yes.</p> <p>9 Q. Were you aware that there had been</p> <p>10 citizens' petitions filed with the FDA regarding</p> <p>11 a request to place warnings on talc regarding</p> <p>12 ovarian cancer?</p> <p>13 A. I may have heard something of that</p> <p>14 effect.</p> <p>15 Q. Are you aware that the FDA has denied</p> <p>16 those petitions?</p> <p>17 MR. SMITH: Object to form.</p> <p>18 A. No, I don't know what the current</p> <p>19 status of all those petitions are.</p> <p>20 BY MR. FERGUSON:</p> <p>21 Q. Okay.</p> <p>22 A. Some have been denied.</p> <p>23 Q. Were you aware the FDA conducted an</p> <p>24 exploratory survey of currently marketed</p>

38 (Pages 146 to 149)

Confidential - John J. Godleski, M.D.

<p style="text-align: right;">Page 150</p> <p>1 cosmetic grade raw material talc and finished 2 cosmetic products containing talc? Are you 3 aware the FDA did a survey? 4 A. No. 5 Q. Were you aware that FDA concluded that 6 the evidence regarding talc and ovarian cancer 7 was insufficient to require a definitive warning 8 as the movants were seeking there? 9 A. I know that they have not required a 10 warning. 11 Q. Are you aware that the National Cancer 12 Institute just this year made a finding that the 13 evidence is inadequate to determine whether 14 perineal talc exposure is associated with an 15 increased risk of ovarian cancer? 16 A. Yes. 17 Q. You disagree with that conclusion, 18 correct? 19 A. Yes. 20 Q. And National Cancer Institute also 21 said that results from case control and cohort 22 studies are inconsistent. Would you agree with 23 that? 24 A. Not entirely. I think there are one</p>	<p style="text-align: right;">Page 152</p> <p>1 (Whereupon, Godleski Exhibit Number 2 17, Document titled Cancer Myths, 3 Talcum Powder and Cancer, from the 4 Cancer Council of Western Australia, 5 was marked for identification.) 6 BY MR. FERGUSON: 7 Q. Let me ask you about it. Let me show 8 you Exhibit 17. 9 MR. FERGUSON: I think you got your 10 souvenir copy of this one, but here's another 11 one (handing). 12 BY MR. FERGUSON: 13 Q. Do you see up in the upper left-hand 14 corner it says Cancer Council, Western 15 Australia? 16 A. Yes. 17 Q. And it's entitled "Cancer Myths"? 18 A. Yes. 19 Q. And it says "Talcum Powder and 20 Cancer," correct? 21 A. Yes. 22 Q. And the very last sentence of the 23 summary there says "The current evidence is 24 inconsistent and insufficient to conclude that</p>
<p style="text-align: right;">Page 151</p> <p>1 or two studies that would go in that direction, 2 and a body of many studies that shows the 3 consistency. But that's what that body 4 concluded, so... 5 Q. So again, you disagree with the 6 National Cancer Institute with regard to their 7 finding, correct? 8 A. Yes. That's not my opinion. 9 Q. And you disagree with IARC to a 10 degree, because your opinion is there's adequate 11 evidence in humans? 12 A. Correct. 13 Q. And you disagree with the FDA's denial 14 of the petition to warn about talc and ovarian 15 cancer, correct? 16 A. I think we've established that. 17 Q. Okay. Did you ever hear of the Cancer 18 Council of Western Australia? 19 A. No. 20 Q. I'll represent it's a governmental 21 organization in Western Australia. 22 23 24</p>	<p style="text-align: right;">Page 153</p> <p>1 the use of talcum powder on the external 2 genitals increases the risk of cancer, 3 specifically ovarian cancer." 4 A. That's what it says. 5 Q. And do you agree that the hypothesis 6 that talcum powder on the external genitals 7 increases the risk of cancer is a cancer myth? 8 A. No. 9 Q. So you disagree with the Cancer 10 Council of Western Australia, too, right? 11 A. Yes. 12 Q. Let's talk about another organization 13 you disagree with. 14 You have an appointment, your primary 15 appointment, I think you said, to Brigham & 16 Women's Hospital? 17 A. That's correct. 18 Q. Have you looked at the website of 19 Brigham & Women's Hospital regarding ovarian 20 cancer? 21 A. No. 22 Q. Do you know whether they list perineal 23 talc use as a risk factor for ovarian cancer? 24 A. I don't know, as I never looked at the</p>

Confidential - John J. Godleski, M.D.

Page 154	Page 156
<p>1 site.</p> <p>2 (Whereupon, Godleski Exhibit Number</p> <p>3 18, Printout titled Ovarian Cancer</p> <p>4 Treatment from Brigham & Women's</p> <p>5 Hospital website, was marked for</p> <p>6 identification.)</p> <p>7 BY MR. FERGUSON:</p> <p>8 Q. Let me show you, I think it's six</p> <p>9 pages, it says 1 out of 2 at the beginning and</p> <p>10 then it says 1 out of 4, because it took two</p> <p>11 clicks to get to it (handing).</p> <p>12 Looking at Exhibit 18, does that</p> <p>13 appear to be at least a printout from Brigham &</p> <p>14 Women's Hospital website?</p> <p>15 A. That's correct.</p> <p>16 Q. Looking at, it's actually Page, I</p> <p>17 think, 3 of the group that you have, it's</p> <p>18 labeled Page 2 of 4 up in the upper right-hand</p> <p>19 corner.</p> <p>20 A. Yes.</p> <p>21 Q. Do you see the first section says</p> <p>22 "What causes ovarian cancer?" And it says "The</p> <p>23 cause of ovarian cancer is not yet known because</p> <p>24 most cases are sporadic," right?</p>	<p>1 BY MR. FERGUSON:</p> <p>2 Q. Let me go back to my question to you.</p> <p>3 Do you believe that perineal talc use</p> <p>4 is a risk factor for ovarian cancer?</p> <p>5 A. Yes.</p> <p>6 Q. If you were listing on a website the</p> <p>7 risk factors for ovarian cancer, you would list</p> <p>8 perineal talc use, wouldn't you?</p> <p>9 A. I would have that, yes.</p> <p>10 Q. But whoever prepared it, the</p> <p>11 institution from Brigham & Women's Hospital does</p> <p>12 not list it as a risk factor, correct?</p> <p>13 MR. SMITH: Object to form.</p> <p>14 A. That's correct.</p> <p>15 BY MR. FERGUSON:</p> <p>16 Q. And I take it, since you indicated you</p> <p>17 were unaware of this, you haven't contacted</p> <p>18 anyone at Brigham & Women's Hospital to convince</p> <p>19 them to add talc as a risk factor to the</p> <p>20 website?</p> <p>21 A. No, I haven't.</p> <p>22 Q. With regard to risk factors, you were</p> <p>23 just looking at various lists of risk factors,</p> <p>24 do you agree that a risk factor is not</p>
Page 155	Page 157
<p>1 A. That's correct.</p> <p>2 Q. Do you disagree with that comment?</p> <p>3 A. No.</p> <p>4 Q. And then in the next section it says</p> <p>5 "What are risk factors for ovarian cancer?" And</p> <p>6 you see they have listed seven different risk</p> <p>7 factors for ovarian cancer, including age,</p> <p>8 family history, and others.</p> <p>9 Do you see that?</p> <p>10 A. Yes.</p> <p>11 Q. Is perineal talc use listed as a risk</p> <p>12 factors for ovarian cancer?</p> <p>13 A. Not on the website.</p> <p>14 Q. Do you believe that perineal talc use</p> <p>15 is a risk factors for ovarian cancer?</p> <p>16 A. Yes.</p> <p>17 Q. So you disagree with your own</p> <p>18 institution, Brigham & Women's Hospital, in that</p> <p>19 regard, correct?</p> <p>20 MR. SMITH: Object to form.</p> <p>21 A. This is written by a company in</p> <p>22 Yardley, Pennsylvania and reviewed by a nurse,</p> <p>23 so that's the level of scientific credibility of</p> <p>24 that website.</p>	<p>1 necessarily a cause? For example, a risk factor</p> <p>2 for ovarian cancer is not necessarily the cause</p> <p>3 of ovarian cancer?</p> <p>4 A. That's true. It's associated.</p> <p>5 Interestingly they don't list -- the website</p> <p>6 also doesn't list the BRCA1, BRCA2 genes, which</p> <p>7 are also known risk factors.</p> <p>8 Q. Do you agree, Dr. Godleski, that your</p> <p>9 opinion that talc causes ovarian cancer is not</p> <p>10 generally accepted by the medical community?</p> <p>11 MR. SMITH: Object to form.</p> <p>12 A. I disagree.</p> <p>13 BY MR. FERGUSON:</p> <p>14 Q. Other than Dr. Cramer, can you point</p> <p>15 to another person in the medical and scientific</p> <p>16 community who agrees with you that talc causes</p> <p>17 ovarian cancer?</p> <p>18 MR. SMITH: Object to form.</p> <p>19 A. Dr. Hess.</p> <p>20 BY MR. FERGUSON:</p> <p>21 Q. Anyone else?</p> <p>22 A. Chang. I think there are several</p> <p>23 papers and authors that express that view.</p> <p>24 Q. And how do you know that Dr. Hess has</p>

40 (Pages 154 to 157)

Confidential - John J. Godleski, M.D.

Page 158	Page 160
<p>1 come to that conclusion?</p> <p>2 A. Her --</p> <p>3 MR. SMITH: Don't you mean Ness, not</p> <p>4 Hess? Do you mean Hess or Ness?</p> <p>5 MR. FERGUSON: I think he probably</p> <p>6 means Ness.</p> <p>7 MR. SMITH: I just wanted to make sure</p> <p>8 we were on the same page. I didn't want to be</p> <p>9 confused.</p> <p>10 MR. FERGUSON: Thanks for correcting</p> <p>11 that, there's so many studies, I don't know all</p> <p>12 the authors.</p> <p>13 BY MR. FERGUSON:</p> <p>14 Q. In any event, how do you know that</p> <p>15 Dr. Ness has come to the conclusion that talc</p> <p>16 causes ovarian cancer?</p> <p>17 A. Her 2010 paper supports that.</p> <p>18 Q. And you mentioned Chang. Is that</p> <p>19 based on the paper that was written back in 1997</p> <p>20 or so?</p> <p>21 A. I think so.</p> <p>22 Q. "Perineal Talc Exposure and Risk of</p> <p>23 Ovarian Carcinoma"?</p> <p>24 A. I believe so.</p>	<p>1 Q. -- redirected due to the Ness/Hess</p> <p>2 issue. But other than Cramer, Ness, and Chang,</p> <p>3 anyone else you can point to in the medical and</p> <p>4 scientific community who agrees with you that</p> <p>5 talc causes ovarian cancer?</p> <p>6 A. Those are three significant authors.</p> <p>7 Q. Okay. And again, not to put you on</p> <p>8 the spot, but as you sit here today, that's all</p> <p>9 you can think of?</p> <p>10 A. That's correct.</p> <p>11 Q. You discuss the fact that you found</p> <p>12 140 foreign particles in the samples that you</p> <p>13 looked at?</p> <p>14 A. That's correct.</p> <p>15 Q. And of those foreign particles, only</p> <p>16 about 4 percent were talc, correct?</p> <p>17 A. 40 percent.</p> <p>18 Q. 40 percent?</p> <p>19 A. Well, we had 140, and of those 39 are</p> <p>20 talc, 6 are talc with nothing else associated</p> <p>21 with them.</p> <p>22 Q. Would that be called pure talc?</p> <p>23 A. Yeah.</p> <p>24 Q. Okay. So 4 percent, about 4 percent</p>
Page 159	Page 161
<p>1 Q. All right. And the conclusion in that</p> <p>2 study was that "The investigation supported</p> <p>3 previous contentions that exposure to talc may</p> <p>4 increase risk of ovarian carcinoma.</p> <p>5 Questionable trends in duration and frequency of</p> <p>6 exposure suggest that further studies may be</p> <p>7 needed to clarify the role of talc in the</p> <p>8 etiology of this disease."</p> <p>9 Sound like what you recall from the</p> <p>10 Chang paper?</p> <p>11 A. Yes.</p> <p>12 Q. Would you agree, then, that Dr. --</p> <p>13 Ms. Chang actually was suggesting further study</p> <p>14 to clarify what the role of talc is in the</p> <p>15 etiology of ovarian cancer?</p> <p>16 A. I think the first part of the</p> <p>17 statement is pretty clear. And then to suggest</p> <p>18 more studies are needed is not surprising.</p> <p>19 Q. An association is not the same as</p> <p>20 cause, is it?</p> <p>21 A. That's correct.</p> <p>22 Q. Okay. And I was -- we got</p> <p>23 appropriately --</p> <p>24 A. Corrected.</p>	<p>1 were talc without other minerals associated with</p> <p>2 them?</p> <p>3 A. Yeah.</p> <p>4 Q. Do you agree that talc is contained in</p> <p>5 a variety of products?</p> <p>6 A. Yes.</p> <p>7 Q. Including food products?</p> <p>8 A. Yes.</p> <p>9 Q. Chewing gum?</p> <p>10 A. Yep.</p> <p>11 Q. Pharmaceutical products, including</p> <p>12 tablets and ointments?</p> <p>13 A. Yes.</p> <p>14 Q. Paper?</p> <p>15 A. I don't know for paper.</p> <p>16 Q. Don't know for paper.</p> <p>17 Paints?</p> <p>18 A. There are a lot of things in paint, I</p> <p>19 don't know specifically if talc is in there.</p> <p>20 Q. Plastics?</p> <p>21 A. Plastics, there's some in it.</p> <p>22 Q. Rubber?</p> <p>23 A. I don't know.</p> <p>24 Q. Ceramics?</p>

41 (Pages 158 to 161)

Confidential - John J. Godleski, M.D.

Page 162	Page 164
<p>1 A. Ceramics, yes.</p> <p>2 Q. Adhesives?</p> <p>3 A. Don't know.</p> <p>4 Q. Asphalt?</p> <p>5 A. Don't know.</p> <p>6 Q. Fertilizers?</p> <p>7 A. I don't know specifically.</p> <p>8 Q. Pesticides?</p> <p>9 A. I don't know.</p> <p>10 Q. Now I've got an easy one for you.</p> <p>11 Cosmetics?</p> <p>12 A. Cosmetics, yes.</p> <p>13 Q. Okay. Are you aware of any studies</p> <p>14 that have looked at what, if any, talc exposure</p> <p>15 there would be just in the ambient air?</p> <p>16 A. Outside air, probably little. Indoor</p> <p>17 air, definitely.</p> <p>18 Q. All right. You're saying that there</p> <p>19 would be exposure to talc in indoor air,</p> <p>20 correct?</p> <p>21 A. I would think so, yes.</p> <p>22 Q. And my question is; have there been</p> <p>23 any studies, limited to indoor air in different</p> <p>24 environments, to determine how much talc is in</p>	<p>1 cell very well as you're doing the analysis.</p> <p>2 Q. So you're saying you can't tell if any</p> <p>3 of the talc particles were enclosed within a</p> <p>4 macrophage?</p> <p>5 A. By light microscopy, and none that I</p> <p>6 saw were.</p> <p>7 Q. How about with regard to the other</p> <p>8 foreign material, the 140 particles of other</p> <p>9 foreign material? I guess in total 140, I'm</p> <p>10 sorry.</p> <p>11 A. Well, let me rephrase the answer.</p> <p>12 By light microscopy using polarized</p> <p>13 light, none of the particles that I observed</p> <p>14 were within cells. By SEM, there were particles</p> <p>15 that we saw that were either in or associated</p> <p>16 with cells, but I can't tell you exactly what</p> <p>17 kind of cells they were and whether or not they</p> <p>18 were inside.</p> <p>19 Q. Are you aware of any published study</p> <p>20 that indicates what one would expect to find as</p> <p>21 far as foreign material or particles in any type</p> <p>22 of gynecologic tissue?</p> <p>23 A. Well, there is the study that we</p> <p>24 talked about earlier where -- the Henderson</p>
Page 163	Page 165
<p>1 the ambient air available to be inhaled?</p> <p>2 A. Much of it is in particle size that</p> <p>3 would reach the lung if it were inhaled, so that</p> <p>4 I don't know exactly how much is there. There's</p> <p>5 a lot of silicates in the air that -- and --</p> <p>6 MR. SMITH: Listen to his question.</p> <p>7 He asked you if there are any studies. Are you</p> <p>8 aware of any studies.</p> <p>9 A. I can't think of any right off.</p> <p>10 BY MR. FERGUSON:</p> <p>11 Q. You talked earlier about macrophages,</p> <p>12 correct?</p> <p>13 A. Yes.</p> <p>14 Q. Tell us what those are again.</p> <p>15 A. Those are cells that ingest particles.</p> <p>16 Q. And were any of the particles that you</p> <p>17 found in Ms. Blaes's tissues enclosed within a</p> <p>18 macrophage?</p> <p>19 A. The polarized light studies, I did not</p> <p>20 have any in this case. The SEM I'm not sure</p> <p>21 about, because it's very hard to tell what kind</p> <p>22 of cell is being observed when you're looking in</p> <p>23 backscatter on SEM. So if it's in a tumor, you</p> <p>24 can't necessarily tell a macrophage from a tumor</p>	<p>1 study, I believe it was, where they looked in</p> <p>2 ovaries and they found some talc, I'm not sure</p> <p>3 what other tissues they have, or what other</p> <p>4 materials they have in there, but that was an</p> <p>5 instance where they looked at, what, 24 ovary</p> <p>6 specimens.</p> <p>7 Q. That was Heller actually, wasn't it?</p> <p>8 A. Was it Heller or Henderson? One of</p> <p>9 those two.</p> <p>10 Q. Other than that one, are you aware of</p> <p>11 any other studies?</p> <p>12 A. No.</p> <p>13 Q. Are you aware of any governmental or</p> <p>14 quasi-governmental organization that has</p> <p>15 declared officially that talc has a causative</p> <p>16 relationship with ovarian cancer?</p> <p>17 A. No.</p> <p>18 Q. Are you aware of any recognized</p> <p>19 scientific epidemiologic or medical organization</p> <p>20 that has declared talc to be a cause of ovarian</p> <p>21 cancer?</p> <p>22 A. No.</p> <p>23 Q. Do you know what sepiolite is?</p> <p>24 A. It's a mineral.</p>

42 (Pages 162 to 165)

Confidential - John J. Godleski, M.D.

Page 166	Page 168
<p>1 Q. And what's the composition of that 2 mineral? 3 A. It's mostly magnesium silicate. It's 4 another magnesium silicate basically. 5 Q. So in that sense, similar to talc as a 6 magnesium silicate? 7 A. Yes. 8 Q. And sepiolite is found in foods, for 9 example, correct? 10 A. Yes. 11 Q. Pharmaceutical products? 12 A. I'm not sure. 13 Q. Kitty litter? 14 A. Hmm? 15 Q. Kitty litter? 16 A. Possibly. 17 MR. FERGUSON: I think I'm going to 18 quit for a while. Can we go off a second? 19 (Off the record discussion.) 20 (Whereupon, a recess was taken from 21 2:13 p.m. to 2:17 p.m.) 22 MR. FERGUSON: I just want to state 23 for the record that we got the disk with 24 Dr. Godleski's information including, I</p>	<p>1 You've covered some of this already, 2 some of it will be for my own benefit, because 3 I'm not sure I completely understand you and I 4 don't want to misinterpret you, and also some 5 things I noted in follow-up that I wanted to 6 know about. 7 First of all, we talked a lot today 8 about the epidemiology, the body of evidence. 9 Can you be a bit more specific about what you 10 mean when you say the body of evidence, or the 11 body of information? I know it includes, in 12 your mind, the epidemiology studies, is that 13 correct? 14 A. That's correct. 15 Q. What else would that include? 16 A. Well, it's mostly the epidemiology 17 that has been done. There have been specific 18 studies that have been meta-studies where people 19 have put together a number of smaller studies, 20 and so that taken all together, and I can't cite 21 all the authors of these many studies, but in my 22 view there are probably 20 studies all together 23 that show associations with talc and ovarian 24 cancer. A lot of these have had different</p>
Page 167	Page 169
<p>1 understand, information on each of the particles 2 that were identified, both the talc and other 3 particles, and we haven't had a chance to look 4 at this, don't know what's going to be on it. 5 We have very limited information from his report 6 and from the other exhibit that he's provided in 7 Exhibit 5 regarding some of the articles that he 8 looked at. We just don't know what else is on 9 here. 10 So once we look at that, we may make a 11 request to question him further regarding some 12 of the information that's on the disk in our 13 remaining time. 14 I put that on the record. You can 15 respond as you wish. 16 MR. SMITH: I'll just wait, cross that 17 bridge when we get there. 18 MR. FERGUSON: That's fair enough. 19 All right. I'm finished. Pass to 20 Ms. Ahern. 21 MS. AHERN: Thank you. 22 BY MS. AHERN: 23 Q. Dr. Godleski, I'm going to probably 24 skip around quite a bit, so bear with me.</p>	<p>1 focus. And there's a much smaller number of 2 studies that don't support that association, or 3 don't support the association as strongly. 4 Q. Okay. So the epidemiology studies are 5 what you are referring to when you talk about 6 the body of evidence that supports an 7 association between talc use and ovarian cancer, 8 is that correct? 9 A. That's correct, yes. 10 Q. Okay. Have you also reviewed any of 11 the toxicology studies concerning talc? 12 A. Some. 13 Q. Do you know which ones those were? 14 A. I can't -- I can't recall right off. 15 Q. Okay. And, Dr. Godleski, have you 16 taken the time to review all of the case 17 control, meta-analysis studies, and the cohort 18 studies that deal with talc and ovarian cancer 19 that have been published over the last 30 years? 20 A. I haven't done that recently. 21 Q. Have you ever done that? 22 A. I have read through many of those 23 studies. 24 Q. Can you estimate how many? I think</p>

43 (Pages 166 to 169)

Confidential - John J. Godleski, M.D.

Page 170	Page 172
<p>1 you said there are 20 studies, you think, that</p> <p>2 support an association. Do you know how many</p> <p>3 studies there have been all together looking at</p> <p>4 talc and ovarian cancer?</p> <p>5 A. I would only be guessing.</p> <p>6 Q. And do you know whether you've</p> <p>7 actually identified all of those at some point,</p> <p>8 sat down and reviewed them?</p> <p>9 A. I don't think I've reviewed all of</p> <p>10 them.</p> <p>11 Q. Doctor, have you reviewed Dr. Ness's</p> <p>12 report in this case?</p> <p>13 A. Her report?</p> <p>14 Q. Yes, sir.</p> <p>15 A. I don't know. I think I opened it,</p> <p>16 but I don't think I really read through it. I</p> <p>17 know I had gotten it several months ago, but</p> <p>18 haven't -- had not read it. If I've read it at</p> <p>19 all I haven't read it recently.</p> <p>20 Q. Have you read Dr. Cramer's report in</p> <p>21 this case?</p> <p>22 A. In this case, no.</p> <p>23 Q. Have you read Dr. Cramer's report in</p> <p>24 the Berg case?</p>	<p>1 area.</p> <p>2 Q. And I know we've gone through this</p> <p>3 again, and I'm just going to go through it again</p> <p>4 and make it clear for me as well.</p> <p>5 You are not an epidemiologist,</p> <p>6 correct?</p> <p>7 A. That's correct.</p> <p>8 Q. You have no formal training in</p> <p>9 epidemiology, is that correct?</p> <p>10 A. That's correct.</p> <p>11 Q. Okay. And you have no formal training</p> <p>12 in cancer epidemiology, is that correct?</p> <p>13 A. Again, I've done a lot of work in --</p> <p>14 working with epidemiologists providing the kind</p> <p>15 of support and interest that I do. I have not</p> <p>16 done this specifically myself.</p> <p>17 Q. Okay. And you have no formal training</p> <p>18 in biostatistics?</p> <p>19 A. Again, as a scientist, I have taken</p> <p>20 statistical courses, I use statistics in my</p> <p>21 work. I have not trained as a biostatistician,</p> <p>22 if that's what you're asking.</p> <p>23 Q. Maybe it would be easier if I asked</p> <p>24 you, you don't hold yourself out as a</p>
Page 171	Page 173
<p>1 A. I did.</p> <p>2 Q. And is some of the information that</p> <p>3 you have on the epidemiology related to talc use</p> <p>4 and ovarian cancer, is some of that gleaned from</p> <p>5 the report that Dr. Cramer wrote in the Berg</p> <p>6 case?</p> <p>7 A. Possibly. I read Dr. Cramer's report</p> <p>8 on the Berg case when the Berg case was going</p> <p>9 on. I haven't read it recently, if that's what</p> <p>10 you're asking.</p> <p>11 Q. Have you read any of the</p> <p>12 epidemiological literature since the Berg case?</p> <p>13 A. I've read some, but I can't tell you</p> <p>14 how much or how deeply I've gone into it,</p> <p>15 because I didn't read it in preparation for this</p> <p>16 deposition.</p> <p>17 Q. Did you read it in preparation for</p> <p>18 preparing your opinions in this case?</p> <p>19 A. For the most part I used my own</p> <p>20 knowledge, based on what I have read previously.</p> <p>21 So it wasn't that in forming the opinion on this</p> <p>22 case that I went back and read specific papers.</p> <p>23 It was based on the body of knowledge that I had</p> <p>24 and what I have read over the years in this</p>	<p>1 biostatistician?</p> <p>2 A. That's correct.</p> <p>3 Q. You don't hold yourself out as an</p> <p>4 epidemiologist?</p> <p>5 A. That's correct.</p> <p>6 Q. And you are not an expert on the</p> <p>7 quantitative and qualitative methodologies for</p> <p>8 establishing causation from epidemiologic</p> <p>9 studies, is that correct?</p> <p>10 A. That's correct.</p> <p>11 Q. And in your report, your report does</p> <p>12 not reference or discuss the epidemiology at</p> <p>13 all, is that correct?</p> <p>14 A. That's correct.</p> <p>15 Q. And you were retained in this case by</p> <p>16 Plaintiff's counsel to determine only whether</p> <p>17 foreign material was present in the ovarian</p> <p>18 tissue for Mrs. Blaes, is that correct?</p> <p>19 A. That's correct.</p> <p>20 Q. Were you specifically asked to look</p> <p>21 for talc, or were you asked to identify all</p> <p>22 foreign material and analyze that?</p> <p>23 A. We were asked to find what foreign</p> <p>24 material we can.</p>

44 (Pages 170 to 173)

Confidential - John J. Godleski, M.D.

Page 174	Page 176
<p>1 Q. And were you asked to do any follow-up</p> <p>2 analysis on any of the other non-talc foreign</p> <p>3 materials you found in Mrs. Blaes's ovarian</p> <p>4 tissue?</p> <p>5 A. No. But as you're doing the work and</p> <p>6 you come across a particle, you have to analyze</p> <p>7 it to know what it is, so you save it.</p> <p>8 Q. And did you find any titanium in any</p> <p>9 of the samples for Mrs. Blaes's ovarian tissue?</p> <p>10 A. I thought we did, but I don't have it</p> <p>11 listed here, so I may be confusing it with</p> <p>12 another case.</p> <p>13 Q. Okay. I'm going to ask for your best</p> <p>14 recollection, because I haven't seen the CD yet,</p> <p>15 and I don't think any of the other foreign</p> <p>16 particles that you mentioned you may have found</p> <p>17 are actually in your report.</p> <p>18 Do you think you earlier mentioned</p> <p>19 titanium and aluminum as foreign particles that</p> <p>20 you would not normally see in human tissue?</p> <p>21 A. Well, for sure I know there's aluminum</p> <p>22 here. And I'm trying to recall if we found</p> <p>23 titanium, and I don't recall specifically in</p> <p>24 this case. I know there was -- it must not have</p>	<p>1 follow-up, or did you conduct any additional</p> <p>2 follow-up on the aluminum you found in</p> <p>3 Mrs. Blaes's ovarian tissue?</p> <p>4 A. Follow-up? I don't understand what</p> <p>5 you're asking.</p> <p>6 Q. Other than identify it as aluminum,</p> <p>7 did you do anything else to determine whether</p> <p>8 there was an association between aluminum and</p> <p>9 her cancer?</p> <p>10 A. No.</p> <p>11 Q. Same for titanium, if there had been</p> <p>12 titanium, I know that you don't remember whether</p> <p>13 you found it in her tissue or not, but had there</p> <p>14 been titanium in her ovarian tissue, would you</p> <p>15 have done any additional follow-up to determine</p> <p>16 whether there was an association between</p> <p>17 titanium and cancer?</p> <p>18 A. To my knowledge, there isn't one.</p> <p>19 Q. Have you looked?</p> <p>20 A. I believe so. Not recently, but we</p> <p>21 were -- we have used titanium as a negative</p> <p>22 control in various studies that I've done over</p> <p>23 the years and been associated with, and until</p> <p>24 recently it's been generally considered to be</p>
Page 175	Page 177
<p>1 been this case, it must be another case where I</p> <p>2 know we have titanium particles.</p> <p>3 Q. And the finding of titanium in ovarian</p> <p>4 tissue, does that mean anything to you?</p> <p>5 A. Titanium has always been considered an</p> <p>6 inert material, titanium dioxide. It's been</p> <p>7 shown to have some inflammatory activity more</p> <p>8 recently, but that would be insignificant.</p> <p>9 Q. What about aluminum, if you found</p> <p>10 aluminum in Mrs. Blaes's ovarian tissue -- first</p> <p>11 of all, do you remember if you found any</p> <p>12 aluminum in Mrs. Blaes's ovarian tissue?</p> <p>13 A. Yes. Aluminum was present as aluminum</p> <p>14 silicate, and a lot of particles.</p> <p>15 Q. Is that something that you expect to</p> <p>16 see in ovarian tissue, if you know?</p> <p>17 A. That's something you find in dirt.</p> <p>18 Q. If I were a mineralogist, I would be a</p> <p>19 little bit insulted at calling all different</p> <p>20 things dirt.</p> <p>21 MR. SMITH: Object to the sidebar. If</p> <p>22 you've got a question, ask a question.</p> <p>23 BY MS. AHERN:</p> <p>24 Q. Would you conduct any additional</p>	<p>1 inert.</p> <p>2 Q. When you say "it's been recently</p> <p>3 considered," is there a particular organization</p> <p>4 or body that you refer to?</p> <p>5 A. No, papers. There's a paper from</p> <p>6 Fedulov out of the lab next-door to mine that</p> <p>7 shows inflammatory responses with titanium, that</p> <p>8 it wasn't as good a control as people had</p> <p>9 previously thought.</p> <p>10 And also Oberdoerster in Rochester</p> <p>11 showed that ultrafine titanium also was</p> <p>12 inflammatory.</p> <p>13 Q. You mentioned earlier that IARC's</p> <p>14 classification of talc as a 2B possible human</p> <p>15 carcinogen is something that also influenced</p> <p>16 your conclusion in this case, is that correct?</p> <p>17 A. Well, it's within the body of</p> <p>18 information, yes.</p> <p>19 Q. In addition to the epidemiology, you</p> <p>20 would consider IARC's classification of the</p> <p>21 substance in your determination of whether or</p> <p>22 not there might be an association or causal</p> <p>23 association between mineral or the compound and</p> <p>24 cancer?</p>

45 (Pages 174 to 177)

Confidential - John J. Godleski, M.D.

Page 178	Page 180
<p>1 A. Yes.</p> <p>2 Q. Were you aware that IARC has</p> <p>3 classified titanium dioxide as a 2B possible</p> <p>4 human carcinogen?</p> <p>5 A. No, I haven't seen that.</p> <p>6 Q. If you had known that, would you have</p> <p>7 done additional follow-up finding titanium</p> <p>8 particles that you found on Mrs. Blaes's ovarian</p> <p>9 tissues?</p> <p>10 MR. SMITH: Objection. Assumes facts</p> <p>11 not in evidence.</p> <p>12 A. Possibly.</p> <p>13 BY MS. AHERN:</p> <p>14 Q. Are you aware that there have been</p> <p>15 studies linking aluminum to breast cancer?</p> <p>16 A. There have been studies linking</p> <p>17 aluminum to a lot of things, and most of them</p> <p>18 have not held up very well.</p> <p>19 Q. Do you know any of those studies</p> <p>20 specifically?</p> <p>21 A. Well, there have been a number of</p> <p>22 studies on aluminum as a potential toxic</p> <p>23 element, and most of them have not held up.</p> <p>24 Q. Do you happen to recall, the ones that</p>	<p>1 Q. And would you consider yourself</p> <p>2 qualified to do a systematic review and analysis</p> <p>3 of the over 30 years of published epidemiology</p> <p>4 on talc and ovarian cancer?</p> <p>5 A. Ask that again? What did you ask?</p> <p>6 Q. Would you consider -- you've already</p> <p>7 acknowledged that you're not a formal</p> <p>8 epidemiologist. You don't hold yourself out as</p> <p>9 an epidemiologist, or a cancer epidemiologist,</p> <p>10 or a biostatistician, correct?</p> <p>11 A. That's correct.</p> <p>12 Q. Would you feel comfortable offering an</p> <p>13 expert opinion if you were asked to do a</p> <p>14 systematic analysis and review of the over</p> <p>15 30 years of published literature on talc and</p> <p>16 ovarian cancer, and give an expert opinion on</p> <p>17 the epidemiology? Would you feel comfortable</p> <p>18 with that?</p> <p>19 A. I probably would not do that.</p> <p>20 Q. And you haven't been asked to,</p> <p>21 correct?</p> <p>22 A. And I haven't been asked to.</p> <p>23 Q. So as far as the epidemiology goes,</p> <p>24 the strength and validity of the 30-plus years</p>
Page 179	Page 181
<p>1 have associated -- had a positive association</p> <p>2 between aluminum and cancer, do you happen to</p> <p>3 know what the relative risks were?</p> <p>4 A. No.</p> <p>5 Q. You don't know if they were in the</p> <p>6 same range as the relative risk and association</p> <p>7 between talc and ovarian cancer?</p> <p>8 A. No.</p> <p>9 Q. So getting back to the original line</p> <p>10 of questioning here, so you've not included any</p> <p>11 opinions on the epidemiology in your report</p> <p>12 itself, is that correct?</p> <p>13 A. That's correct.</p> <p>14 Q. And you do not intend to offer an</p> <p>15 expert opinion regarding the strength or</p> <p>16 validity of published epidemiology on talc and</p> <p>17 ovarian cancer, do you?</p> <p>18 A. Probably not.</p> <p>19 Q. Probably not?</p> <p>20 A. I mean I can. As I sit here now, I do</p> <p>21 not intend to offer any opinions.</p> <p>22 Q. Because you weren't asked to do a</p> <p>23 systematic review of the epidemiology?</p> <p>24 A. No, that's not what I was asked to do.</p>	<p>1 of studies on this topic, you would defer to an</p> <p>2 epidemiologist by training, wouldn't you, to</p> <p>3 provide an expert opinion on the strength and</p> <p>4 validity of those cases? Those studies, excuse</p> <p>5 me.</p> <p>6 A. Yes.</p> <p>7 Q. And I have some questions about your</p> <p>8 report, just so you can clarify for me. Do you</p> <p>9 still have Exhibit 3 in front of you?</p> <p>10 A. Yes.</p> <p>11 Q. Just so there's no confusion later on,</p> <p>12 Figure 1 and Figure 2 are from two different</p> <p>13 slides, correct?</p> <p>14 A. That's correct.</p> <p>15 Q. So the first slide, you're simply</p> <p>16 looking at the morphology of the tumor?</p> <p>17 A. Looking at the morphology and the</p> <p>18 features of the tumor.</p> <p>19 Q. And I know you were pointing out the</p> <p>20 various features earlier, and maybe if we have</p> <p>21 time later we can have you, if you don't mind,</p> <p>22 just draw an arrow or something and explain what</p> <p>23 you're seeing there.</p> <p>24 A. Okay.</p>

46 (Pages 178 to 181)

Confidential - John J. Godleski, M.D.

<p style="text-align: right;">Page 182</p> <p>1 Q. So Figure 2 is from a different slide. 2 Is this from ovarian tissue? 3 A. It's ovarian tissue from the right 4 ovary. 5 Q. Okay. And you have analyzed Figure 2, 6 the slide here, under polarized light, and you 7 see birefringent? 8 A. Yes. 9 Q. Do you have any idea what these 10 birefringent particles are in Figure 2? 11 A. Aside from them being birefringent and 12 plate-like, I can't say more than that. 13 Q. And that's because in order for you to 14 say anything about these, you would have to then 15 take this sample, this specific slide, and 16 conduct an SEM analysis? 17 A. Yes. That's more complicated than it 18 sounds. But it's possible to actually take a 19 slide, take the tissue off a slide, put it onto 20 a substrate that would allow you to analyze it, 21 and then subsequently analyze it. The idea of 22 any of this type of study is that if you see 23 something in one level, chances are good you're 24 going to see it again in other levels, so that</p>	<p style="text-align: right;">Page 184</p> <p>1 characteristics. For example, in looking at 2 this picture, which is from block N, which is 3 the same block as this Figure 2, we have a 4 little bit better definition of the cellular 5 nature of it, and what you can see here is a lot 6 of these big globules of calcium, and that 7 corresponds very well to the picture on Figure 8 1, even though Figure 1 is from a completely 9 different slide. So that the tumor looks 10 similarly in different locations, and depending 11 on what the nature of the area is, you may see 12 something like this that looks pretty good in 13 terms of saying, oh, that's very similar to what 14 we're looking at here, and especially if there 15 are papillary configurations that are sticking 16 out or something like that. Whereas in this 17 particular area -- 18 Q. And you're talking -- I'm sorry, I 19 just want to narrate a little bit, you're 20 talking now about Figure 2? 21 A. Figure 2. 22 Q. And you were comparing -- sorry, why 23 don't you go ahead for the record, and which 24 exhibit are you looking at?</p>
<p style="text-align: right;">Page 183</p> <p>1 the -- rather than destroying slides, which 2 essentially what that would be if you took it 3 off and put it onto another substrate, what you 4 end up doing is to cut additional slides from 5 those blocks that have shown evidence of the 6 particles, and chances are pretty good that 7 you're going to find them in deeper levels as 8 well, and so that's what we do. 9 Q. And Figure 4, the SEM image -- 10 A. Yes. 11 Q. -- we're looking at ovarian tissue 12 here, is that correct? 13 A. That's correct. 14 Q. And I think you said earlier that 15 because the morphological features aren't very 16 clear in this picture, you couldn't tell whether 17 the particle is in lymphatic vessel or in the 18 tumor itself, is that correct? 19 A. That's correct. 20 Q. Now, is there -- are you sacrificing 21 something when you do SEM in terms of being able 22 to distinguish the morphological characteristics 23 of the tissue? 24 A. It depends on the tissue and its</p>	<p style="text-align: right;">Page 185</p> <p>1 A. Okay. Now, Figure 2 is the same slide 2 as many of the particles that we have here. And 3 so now as I look at the tissue here where 4 there's, again, a clear talc signal, it may be 5 that this is a very similar area to the light 6 microscopic picture of Figure 2. But you're 7 sort of more looking at shadows here rather than 8 the same quality of the tissue. 9 Q. I'm sorry, just so we know what you're 10 talking about here, this is -- Dr. Godleski was 11 referring to Exhibit 5, Page 8. 12 And you're saying, Doctor -- are you 13 saying that these images were taken from the 14 same block as Figure 2 in your report? 15 A. That's correct. 16 Q. Okay. And tell me again what that 17 last page you were talking about first on there 18 was? You mentioned, first of all, Figure 5, you 19 were showing me this picture. 20 A. And this is -- 21 Q. That's the last page of Figure 5? 22 A. Yes. This is also from block N, which 23 is the same as Figure 2, but it's an area that 24 has much more calcium, whereas the Figure 2 that</p>

Confidential - John J. Godleski, M.D.

Page 186	Page 188
<p>1 we have doesn't show an area with a lot of 2 calcium. And this picture looks much more like 3 Figure 1, even though Figure 1 is from a 4 different block, but it's from the same tissue, 5 so it's not surprising that they match up very 6 well. 7 Q. Did you take size measurements for the 8 particles that you observed in Mrs. Blaes's 9 tissue? 10 A. I'm sorry? 11 Q. Did you take any size measurements for 12 the particles that you observed in the tissue in 13 terms of microns? 14 A. They are all measurable, because we 15 have the magnification, we have the particle 16 itself, and we can measure it with our software, 17 we can just go back and do a measurement. 18 Q. But did you actually do the 19 measurements before, or have you done the 20 measurements yet, size measurements, for the 21 particles? 22 A. I think we have measurements of 23 particle size of most of the particles. 24 Q. And the six particles that you've</p>	<p>1 Dr. Godleski, you mentioned that you and 2 Dr. Cramer are collecting data on cases, and I 3 thought I heard you say you were collecting data 4 to quantify talc use and correlate that with 5 talc observed in ovarian tissue, is that 6 correct? 7 A. Yes. Roughly, yes. 8 Q. Could you -- I'm sorry. Could you 9 explain it one more time? Because I did not 10 understand it. 11 A. In Dr. Cramer's records he has talc 12 quantified, so that for further studies that we 13 can do, he can randomly choose cases out of the 14 highest talc use patients and the lowest or 15 non-talc using people, and then we can -- or 16 something in-between. And if we're asking 17 specific questions about the biology or the 18 response or the interaction of, say, talc 19 particles with calcium, then we can use those as 20 a way of doing it where we have the materials on 21 the patients, we have the epidemiology, and so 22 it can make for a better study. 23 Q. Okay. A couple questions then. 24 So you mentioned Dr. Cramer has</p>
Page 187	Page 189
<p>1 identified as consistent with talc -- is that 2 the correct term, consistent with talc? 3 A. Yeah. 4 Q. Do you remember what the sizes of 5 those particles were? 6 MR. SMITH: Object to form. 7 A. Let me see if I noted that. Right 8 off, I don't recall. But it may be in some of 9 this information. 10 (Witness reviewing document.) 11 A. I'm not reporting that, but just 12 looking at the size of the particles, I would 13 say they were in the micron or submicron range, 14 mainly because each of these has a scale on it. 15 And if this is 50 microns, that particle is no 16 more than 1 micron or less, just by looking at 17 it. But you could put a ruler on it and do a 18 relationship if it was important to you. 19 BY MS. AHERN: 20 Q. And would we be able to do that 21 looking at the information that you provided to 22 us in Exhibit 13, the CD? 23 A. Yep, every one. 24 Q. Okay. Earlier on in the deposition,</p>	<p>1 records where he's got talc quantified. Are you 2 talking about a woman's talc use? 3 A. Yes. 4 Q. So he's asked questions. Are these 5 patients that have already been diagnosed with 6 ovarian cancer? 7 A. Yes, these are patients that he's 8 studied and he's published on, and they have 9 signed consents and so forth for studies of 10 their tissue, they've filled out questionnaires 11 and so forth. 12 Q. So some of these patients, has their 13 information already been used in Dr. Cramer's 14 previous publications? 15 A. More likely than not, yes. 16 Q. And so does he have different now or 17 additional information about the quantity of the 18 talc that they used than he had before? 19 A. We're working on that. No. Oh, by 20 questionnaire, no. 21 Q. Okay. 22 A. No, this is published work. 23 Q. And you mentioned that you would be 24 able to look at the level of talc use and also</p>

48 (Pages 186 to 189)

Confidential - John J. Godleski, M.D.

Page 190	Page 192
<p>1 somehow associate that with other minerals like 2 calcium, is that correct? 3 A. Well, there's a lot of questions that 4 we can ask with this based on what we're finding 5 in these cases. You know, as we continue, we 6 have interest in our own cases, and to the 7 extent that the patients in litigation have not 8 been -- they aren't part of a study, but if 9 questions arise that are scientific interest, we 10 can always go back and study those in the 11 patient materials that we have. We already have 12 consent to do this. 13 Q. And do you know -- you said, I think, 14 that you have looked at at least around 50 cases 15 of ovarian cancer for the purpose of this data 16 collection and study that you're doing with 17 Dr. Cramer? 18 A. Yes. 19 Q. These are all non-litigation cases, is 20 that correct? 21 A. As far as I know, yes. 22 Q. And have you or Dr. Cramer presented 23 any of the interim findings of this study 24 anywhere as a poster or an abstract?</p>	<p>1 question was yes, and it's in that context. 2 Now, I think, you know, when you're in 3 the process of designing a study and just 4 starting to look at the histologic tissue to see 5 if it meets criteria that you're developing, 6 yes, this is not an area that we want to explore 7 in great detail because there's -- you know, 8 it's very early on. But it's in -- it's 9 something we're doing. And that was the answer 10 to the question. 11 Q. All right. So very early on -- 12 A. It's not ready for publication. 13 Q. Still collecting? 14 A. It's not close to prime time. But it 15 was not -- that was not what I was answering. I 16 was answering a different question when we 17 talked about that. 18 Q. Okay. Fair enough. 19 And I have another question for you. 20 You were talking earlier about the Roggli -- is 21 that how you say it, Roggli? 22 MR. SMITH: Roggli. 23 BY MS. AHERN: 24 Q. -- the Roggli studies on asbestos --</p>
Page 191	Page 193
<p>1 A. There aren't any at this point. We've 2 identified cases, we've started to look at them 3 by microscopy to see if they meet the criteria 4 that we're looking to study, and we haven't done 5 any SEM on them yet. 6 Q. And the criteria for inclusion in the 7 study would be talc use, or a certain degree of 8 talc use? 9 A. No. The inclusion in the study is 10 based on their pathology slides being findable 11 and available, and that they are -- that they 12 meet the pathologic criteria that we're trying 13 to study. 14 Q. Okay. And I'm sorry for torturing 15 this, I think, as I understand it, these are -- 16 this is old information that Dr. Cramer has on a 17 series of patients that he's already published 18 on, and he's trying to correlate the talc use 19 with findings, pathological findings? 20 A. Those are not necessarily the 21 objectives of the study. And it's something 22 that we're working on. And I think I was 23 answering the question in regard to have I 24 looked at other cases. And the answer to that</p>	<p>1 A. Yes. 2 Q. -- in your report in terms of how you 3 arrived at your conclusion that there was 4 substantial talc particles in Mrs. Blaes's 5 ovarian tissue. Can you explain to me one more 6 time how you used the Roggli study to 7 extrapolate to Mrs. Blaes's ovarian tumor? 8 MR. SMITH: I'm going to object. It's 9 been asked and answered. 10 Go ahead. 11 A. The objective of the Roggli study was 12 to answer the question of whether the finding of 13 one asbestos body in a section of lung tissue 14 was an important and relevant finding in terms 15 of the patient's asbestos exposure, or could you 16 find this in anybody walking down the street, 17 did it suggest an occupational exposure. 18 And the conclusion to the study was 19 that if you found one asbestos body by light 20 microscopy in a routine section, that it did 21 indicate a level of exposure above what you 22 would expect in the general population. 23 The same approach could apply here, 24 where if you are finding particles in a section</p>

49 (Pages 190 to 193)

Confidential - John J. Godleski, M.D.

Page 194	Page 196
<p>1 of tissue, and if we're finding six particles in</p> <p>2 a section of tissue, that indicates that if one</p> <p>3 does a determination of the number of particles</p> <p>4 by weight, there would be a very substantial</p> <p>5 number there in the ovary. Because if you think</p> <p>6 in terms of an ovary weighing somewhere between</p> <p>7 10 and 20 grams, and we're examining a microgram</p> <p>8 sample of tissue, you can see that the</p> <p>9 relationship of the number and the significance</p> <p>10 of finding small numbers.</p> <p>11 BY MS. AHERN:</p> <p>12 Q. Was Roggli able to verify that by</p> <p>13 looking at serial sections, or something, and</p> <p>14 quantifying the number of asbestos fibers and</p> <p>15 then going back and --</p> <p>16 A. What he related to --</p> <p>17 Q. Sorry, I want to finish.</p> <p>18 Was Roggli able to go back and verify</p> <p>19 his method of quantifying the number of asbestos</p> <p>20 fibers in tissue by volume by going back and</p> <p>21 doing something like a serial sectioning and</p> <p>22 counting the number of asbestos fibers?</p> <p>23 A. He related it to digestion studies,</p> <p>24 because with digestion studies you start out</p>	<p>1 digested the tissue or we looked at it by some</p> <p>2 other method, we would get into the thousands</p> <p>3 and maybe even millions of particles</p> <p>4 identifiable.</p> <p>5 Q. Okay. So you weren't suggesting here</p> <p>6 that second step, that verification, by</p> <p>7 comparing that one talc particle, for instance,</p> <p>8 to a digestion study showing how much talc you</p> <p>9 can expect per gram of tissue, that has not been</p> <p>10 done?</p> <p>11 A. That has not been done.</p> <p>12 Q. So it could be that you're looking at</p> <p>13 one talc particle in a gram of tissue, or it</p> <p>14 could be that you're looking at hundreds of talc</p> <p>15 particles in a gram of tissue, is that correct?</p> <p>16 A. More likely tens of thousands.</p> <p>17 Q. Okay. And when you say "more likely,"</p> <p>18 what do you base that on?</p> <p>19 MR. SMITH: Objection. Asked and</p> <p>20 answered.</p> <p>21 A. We started a study where we've done --</p> <p>22 where we did digestion of particles from cases</p> <p>23 with ovarian cancer, that study has not been</p> <p>24 finished. This is the study I talked about</p>
Page 195	Page 197
<p>1 with a gram or more of tissue, and you digest</p> <p>2 the tissue away, and you're left with the</p> <p>3 mineral amount. And there's been many studies</p> <p>4 that establish that at certain levels there's --</p> <p>5 there's a number that's more likely than not</p> <p>6 associated with the development of mesothelioma</p> <p>7 or other asbestos-related diseases, there are</p> <p>8 other data based on digestion studies that</p> <p>9 indicate very high exposure levels. So he was</p> <p>10 trying to determine the question of, okay, if</p> <p>11 you find it by light microscopy in this section</p> <p>12 of tissue, what's the meaning of that in terms</p> <p>13 of the body of knowledge that we have of</p> <p>14 digestion, digestion-based studies, because not</p> <p>15 every case has tissue for digestion.</p> <p>16 So it's the same idea, that since</p> <p>17 we're looking at a small -- a very small sample</p> <p>18 of tissue, what's the meaning. If we find one</p> <p>19 asbestos -- or one talc particle in a section of</p> <p>20 ovary, what have we examined in terms of the</p> <p>21 percent of ovarian tissue, we're talking about a</p> <p>22 hundredth or a thousandth of a percent of that</p> <p>23 tissue. And if you then relate that to, well,</p> <p>24 how much is it likely that we would find if we</p>	<p>1 where people had moved on, and the people that</p> <p>2 started it didn't finish it. But the bottom</p> <p>3 line was that we had more particles than we</p> <p>4 could possibly quantify in those cases, and we</p> <p>5 ended up devising sampling methods in order to</p> <p>6 get some handle of how many particles were in</p> <p>7 that tissue, and it was a very large number.</p> <p>8 BY MS. AHERN:</p> <p>9 Q. Okay. So you have some preliminary</p> <p>10 data that hasn't been published yet?</p> <p>11 A. Has not been published, has not gone</p> <p>12 anywhere, but that's my sense based on what</p> <p>13 we've done.</p> <p>14 Q. So when you talk in this paragraph</p> <p>15 here, second to last paragraph, about</p> <p>16 quantifying or estimating the number of talc</p> <p>17 particles present in ovarian tissue in</p> <p>18 Mrs. Blaes's case, you're referring to</p> <p>19 unpublished data from your laboratory, is that</p> <p>20 correct?</p> <p>21 MR. SMITH: Object to form.</p> <p>22 A. No. I'm relating a concept that's</p> <p>23 accepted in pathology that if you find one</p> <p>24 particle in a section of tissue that it's</p>

50 (Pages 194 to 197)

Confidential - John J. Godleski, M.D.

Page 198	Page 200
<p>1 significant, and applying that principle here.</p> <p>2 And that principle is based originally on the</p> <p>3 study of Roggli with asbestos, but it's also</p> <p>4 been applied in terms of bacteria in a</p> <p>5 histologic section, it's been applied in many,</p> <p>6 many other situations scientifically. So that's</p> <p>7 the body of knowledge that I'm using when I make</p> <p>8 this relationship.</p> <p>9 MS. AHERN: I'm just going through my</p> <p>10 notes. If you've got some questions that you</p> <p>11 want to -- so we don't take up too much time.</p> <p>12 MR. FERGUSON: Okay.</p> <p>13 BY MR. FERGUSON:</p> <p>14 Q. Dr. Godleski, let me just make sure I</p> <p>15 understand our prior discussion on the spectrum</p> <p>16 that is located in your report, in your</p> <p>17 Exhibit 3.</p> <p>18 A. Okay.</p> <p>19 Q. Over in the upper right-hand corner,</p> <p>20 we talked about this, and I probably just was</p> <p>21 confusing in my question, but it says "Spectrum</p> <p>22 360." I assume that's just the software or</p> <p>23 something identifying what we're talking about,</p> <p>24 right?</p>	<p>1 as talc, correct?</p> <p>2 A. Yes.</p> <p>3 Q. What is the chemical formula?</p> <p>4 A. I think it's -- what is it, SIMG05, I</p> <p>5 think, or something like that. I don't recall</p> <p>6 right now.</p> <p>7 Q. And again, I'm not trying to test you</p> <p>8 here.</p> <p>9 A. I just don't recall.</p> <p>10 Q. I'm just trying to get my terms</p> <p>11 defined here, too, so I'm not misunderstanding.</p> <p>12 Let's go back to the atomic</p> <p>13 percentage. As we look at the atomic percentage</p> <p>14 here with regard to silicon, it's 11.2, and</p> <p>15 magnesium 10.7, right?</p> <p>16 A. Mm-hmm.</p> <p>17 Q. And that's the ratio that you're most</p> <p>18 interested in looking at with regard to</p> <p>19 determining what substance it is, correct?</p> <p>20 A. Yeah.</p> <p>21 Q. And do you agree with me that the</p> <p>22 atomic percentage for talc, if we go silicon</p> <p>23 over magnesium, should be about 1.33, or do you</p> <p>24 know?</p>
Page 199	Page 201
<p>1 A. Yes.</p> <p>2 Q. Then below that it has "AT</p> <p>3 percentage," is that right?</p> <p>4 A. Yep.</p> <p>5 Q. Does that stand for atomic percentage?</p> <p>6 A. Yes.</p> <p>7 Q. Okay. And what is the atomic</p> <p>8 percentage? I'm not talking about what it is</p> <p>9 numerically here, but in general what's an</p> <p>10 atomic percentage?</p> <p>11 A. It includes the atomic weight of the</p> <p>12 element as well as the counts that we're getting</p> <p>13 here, so that it's a determination to give you a</p> <p>14 quantification based on the element itself.</p> <p>15 Q. And you can, for a particle, do an</p> <p>16 analysis of the weight percentage, too, correct,</p> <p>17 or does this include the weight percentage?</p> <p>18 A. Well --</p> <p>19 Q. I've seen reference in normative data</p> <p>20 on weight percentage. I'm just trying to figure</p> <p>21 it out.</p> <p>22 A. Same thing.</p> <p>23 Q. Then there's also something called a</p> <p>24 chemical formula with regard to substances such</p>	<p>1 A. No, it's not quite that. If you do it</p> <p>2 by the counts you might get that. But by the</p> <p>3 atomic percentage, it's like 1.1-to-1.</p> <p>4 Q. That's what it is here, right?</p> <p>5 A. Yeah. And if you look through the</p> <p>6 others here, it's all very close to that. So</p> <p>7 even where we have -- this is 10, 10.6 to 10.2.</p> <p>8 Q. I apologize, can I just -- so I don't</p> <p>9 lose my train of thought, the 10.6 to 10.2, is</p> <p>10 that a particle that you believe is a talc</p> <p>11 particle?</p> <p>12 A. Yes. And that has a small percentage</p> <p>13 of iron with it. And here's another one, it's</p> <p>14 11.2 to 10.7. These are all within the</p> <p>15 appropriate range.</p> <p>16 Q. Well, that's what --</p> <p>17 A. And this one is 8.6 to 7.7. So, you</p> <p>18 know, we're pretty much in the same range.</p> <p>19 Q. And what I'm trying to figure out is</p> <p>20 what is the -- where do you obtain -- where is</p> <p>21 the normative data that tells you that that's</p> <p>22 the right ratio for talc?</p> <p>23 A. Again, you could -- in most instances</p> <p>24 you get a range, and it's within the range. I'm</p>

51 (Pages 198 to 201)

Confidential - John J. Godleski, M.D.

<p style="text-align: right;">Page 202</p> <p>1 trying to recall whether the McCrone Atlas has 2 that or whether that comes from other sources. 3 Q. You did mention the McCrone Atlas 4 before. So that's one place where you believe I 5 could go look that up and see what the atomic 6 percentage and the ratio between silicon and 7 magnesium would be with regard to talc? 8 A. Yeah, I believe so. 9 Q. You think I'm going to find somewhere 10 around 1, 1.1, something in that range? 11 A. Yeah, in that range. 12 Q. You told Ms. Ahern that you had 13 reviewed epidemiology, but I was a little 14 unclear from the answer to the question as to 15 whether you had reviewed any of the epidemiology 16 that's come out since the Berg case ended. Have 17 you reviewed any of the more recent 18 epidemiological data? 19 A. Not in preparation for this 20 deposition. 21 Q. Or just in general, I guess, I'm 22 asking as part of your -- 23 A. I read a lot of things. 24 Q. Do you recall reading a January, 2015</p>	<p style="text-align: right;">Page 204</p> <p>1 MR. FERGUSON: Anything else? 2 MS. AHERN: No, nothing else at this 3 time. 4 MR. SMITH: I've got a couple 5 questions. 6 MR. FERGUSON: I object. 7 MR. SMITH: It won't be long. 8 CROSS EXAMINATION 9 BY MR. SMITH: 10 Q. Earlier you were asked by counsel 11 about your focus, that you had some focus on 12 pulmonology in your pathology practice, correct? 13 A. That's correct. 14 Q. And would it also be part of your 15 focus in your pathology practice of finding and 16 analyzing foreign material in all types of 17 tissue in the body? 18 A. Yes, it's something I definitely do. 19 Q. And earlier, counsel asked you about, 20 I believe, a couple of family members that may 21 have been diagnosed with breast cancer and 22 Ms. Blaes, and were you aware of that. Do you 23 recall that? 24 A. No.</p>
<p style="text-align: right;">Page 203</p> <p>1 article by Coleman called "Talcum Powder, The 2 'Pluto' of Prognostic Factors for Ovarian 3 Cancer"? 4 A. No. 5 Q. Do you recall reading a 2014 article 6 by Houghton entitled "Perineal Powder Use and 7 Risk of Ovarian Cancer"? 8 A. I think I did read that. I believe 9 that's a study where they related everything to 10 ever or never using talc. 11 Q. Do you recall their conclusion was 12 based on their results, "Perineal powder use 13 does not appear to influence ovarian cancer 14 risk"? 15 A. Yeah, that's one of the few studies 16 that don't show it, show a relationship. 17 MR. FERGUSON: I think that's all, 18 with the caveat that we may talk to you after we 19 look at this disk if there's information that we 20 feel we need to talk to him about since we 21 didn't get it. And we'll, as you say, cross 22 that bridge when we come to it, if we come to 23 it. 24 MS. AHERN: I agree.</p>	<p style="text-align: right;">Page 205</p> <p>1 Q. Well, I'll represent to you earlier, 2 we have been here a while, that he had mentioned 3 a couple of possible family members that have 4 been diagnosed with breast cancer of Ms. Blaes. 5 If an individual, or in this case 6 Ms. Blaes was tested for the genetic mutation 7 BRCA1 and BRCA2, and was negative, family 8 history wouldn't matter, would it? 9 MR. FERGUSON: Object to form. 10 MS. AHERN: Objection. 11 BY MR. SMITH: 12 Q. It wouldn't be a consideration, would 13 it? 14 MR. FERGUSON: Same objection. 15 A. It would be less of a genetic 16 predisposition. 17 BY MR. SMITH: 18 Q. Right. Because looking at family 19 history, and if we -- before we had BRCA1 and 20 BRCA2, if we looked at family history and close 21 family history of breast and ovarian cancer, it 22 might indicate a genetic predisposition of that 23 disease in future children or family members, 24 correct?</p>

Confidential - John J. Godleski, M.D.

Page 206	Page 208
<p>1 MR. FERGUSON: Object to form.</p> <p>2 A. That's correct.</p> <p>3 BY MR. SMITH:</p> <p>4 Q. And BRCA1 and BRCA2 is a genetic test</p> <p>5 that has come out that specifically analyzes the</p> <p>6 genes for that genetic predisposition, is that</p> <p>7 correct?</p> <p>8 MR. FERGUSON: Objection.</p> <p>9 MS. AHERN: Objection.</p> <p>10 A. That's correct.</p> <p>11 BY MR. SMITH:</p> <p>12 Q. They asked you earlier about how</p> <p>13 long -- could you tell us exactly how long the</p> <p>14 talc particles have been in the tissue of</p> <p>15 Ms. Blaes, and you said you couldn't</p> <p>16 specifically give a time frame, but you did find</p> <p>17 talc imbedded deep into these tissues, correct?</p> <p>18 A. That's correct.</p> <p>19 Q. And that would indicate that these had</p> <p>20 been there for some time, correct?</p> <p>21 MR. FERGUSON: Object to form.</p> <p>22 MS. AHERN: Objection.</p> <p>23 A. More likely than not.</p> <p>24 BY MR. SMITH:</p>	<p>1 correct?</p> <p>2 MR. FERGUSON: Same objection.</p> <p>3 A. Correct.</p> <p>4 BY MR. SMITH:</p> <p>5 Q. And you were asked earlier about</p> <p>6 aluminum and titanium, and did you consider</p> <p>7 those elements in your examination of the</p> <p>8 tissue. Do you recall that from counsel?</p> <p>9 A. Yes.</p> <p>10 Q. And are you aware of any studies that</p> <p>11 link aluminum or titanium to ovarian cancer?</p> <p>12 A. No.</p> <p>13 Q. And so would it be proper for you to</p> <p>14 consider things that you don't even consider a</p> <p>15 risk factor for the disease?</p> <p>16 MR. FERGUSON: Object to form.</p> <p>17 MS. AHERN: Objection.</p> <p>18 A. No.</p> <p>19 MR. SMITH: That's all the questions I</p> <p>20 have.</p> <p>21 MR. FERGUSON: Just briefly.</p> <p>22 REDIRECT EXAMINATION</p> <p>23 BY MR. FERGUSON:</p> <p>24 Q. Mr. Smith asked you about BRCA1 and 2</p>
Page 207	Page 209
<p>1 Q. And you're of the opinion more likely</p> <p>2 than not that Mrs. Blaes's decades-long use of</p> <p>3 genital talc resulted in the talc that you found</p> <p>4 in her ovarian tissue, is that correct?</p> <p>5 MR. FERGUSON: Object to form.</p> <p>6 A. That's correct.</p> <p>7 BY MR. SMITH:</p> <p>8 Q. And earlier defense counsel asked you</p> <p>9 about condom use, and is that a possible</p> <p>10 alternate source of talc exposure. But if an</p> <p>11 individual, or in this case Ms. Blaes's husband</p> <p>12 had testified that all of the condoms that he</p> <p>13 used when having intercourse with Ms. Blaes were</p> <p>14 lubricated, that would go against that theory of</p> <p>15 an alternate exposure in that method, would it</p> <p>16 not?</p> <p>17 MR. FERGUSON: Object to form.</p> <p>18 MS. AHERN: Objection.</p> <p>19 A. More likely than not, yes.</p> <p>20 BY MR. SMITH:</p> <p>21 Q. And you're of the opinion talc can</p> <p>22 transmigrate to the ovaries, correct?</p> <p>23 A. Yes.</p> <p>24 Q. And there are studies that show this,</p>	<p>1 mutations. Do you recall that discussion?</p> <p>2 A. Yes.</p> <p>3 Q. Certainly before the BRCA1 and 2</p> <p>4 mutations were discovered, we didn't know about</p> <p>5 them, correct?</p> <p>6 A. That's right.</p> <p>7 Q. Would you agree there's much to be</p> <p>8 learned in the future about ovarian cancer and,</p> <p>9 in fact, we don't know what mutations or genetic</p> <p>10 factors there may be at this point?</p> <p>11 A. Yeah, and we don't know how those</p> <p>12 mutations interact with environmental agents.</p> <p>13 MR. FERGUSON: Okay.</p> <p>14 BY MS. AHERN:</p> <p>15 Q. Are you aware of whether or not other</p> <p>16 genetic mutations or polymorphisms have been</p> <p>17 associated with ovarian cancer other than BRCA1</p> <p>18 and BRCA2?</p> <p>19 A. No.</p> <p>20 MS. AHERN: Okay. No further</p> <p>21 questions.</p> <p>22 (Whereupon, the deposition was</p> <p>23 concluded at 3:11 p.m.)</p> <p>24</p>

53 (Pages 206 to 209)

Confidential - John J. Godleski, M.D.

Page 210	Page 212
1 COMMONWEALTH OF MASSACHUSETTS) 2 SUFFOLK, SS.) 3 I, MAUREEN O'CONNOR POLLARD, RMR, CLR, 4 and Notary Public in and for the Commonwealth of 5 Massachusetts, do certify that on the 27th day 6 of May, 2015, at 9:00 o'clock, the person 7 above-named was duly sworn to testify to the 8 truth of their knowledge, and examined, and such 9 examination reduced to typewriting under my 10 direction, and is a true record of the testimony 11 given by the witness. I further certify that I 12 am neither attorney, related or employed by any 13 of the parties to this action, and that I am not 14 a relative or employee of any attorney employed 15 by the parties hereto, or financially interested 16 in the action. 17 In witness whereof, I have hereunto 18 set my hand this 7th day of June, 2015. 19 20 21 MAUREEN O'CONNOR POLLARD, NOTARY PUBLIC 22 Realtime Systems Administrator 23 CSR #149108 24	1 ----- 2 E R R A T A 3 ----- 4 PAGE LINE CHANGE 5 REASON: _____ 6 _____ 7 REASON: _____ 8 _____ 9 REASON: _____ 10 _____ 11 REASON: _____ 12 _____ 13 REASON: _____ 14 _____ 15 REASON: _____ 16 _____ 17 REASON: _____ 18 _____ 19 REASON: _____ 20 _____ 21 REASON: _____ 22 _____ 23 REASON: _____ 24 _____
Page 211	Page 213
1 INSTRUCTIONS TO WITNESS 2 3 Please read your deposition over 4 carefully and make any necessary corrections. 5 You should state the reason in the appropriate 6 space on the errata sheet for any corrections 7 that are made. 8 After doing so, please sign the 9 errata sheet and date it. It will be attached 10 to your deposition. 11 It is imperative that you return 12 the original errata sheet to the deposing 13 attorney within thirty (30) days of receipt of 14 the deposition transcript by you. If you fail 15 to do so, the deposition transcript may be 16 deemed to be accurate and may be used in court. 17 18 19 20 21 22 23 24	1 ACKNOWLEDGMENT OF DEPONENT 2 3 I, _____, do 4 Hereby certify that I have read the foregoing 5 pages, and that the same is a correct 6 transcription of the answers given by me to the 7 questions therein propounded, except for the 8 corrections or changes in form or substance, if 9 any, noted in the attached Errata Sheet. 10 11 12 13 14 15 16 JOHN J. GODLESKI, M.D. DATE _____ 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 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21	_____	_____	_____
22	_____	_____	_____
23	_____	_____	_____
24	_____	_____	_____

A	address 6:11	206:9,22	89:1	201:8
abdomen 51:17	adequate 148:15	207:18 208:17	analysis 4:19	appear 154:13
ability 71:23	148:18,21	209:14,20	10:24 11:6	203:13
able 45:14 51:9	149:1 151:10	air 27:5,18 28:8	13:9 35:11	appearance 45:9
55:9 79:17	adhesions 89:13	28:18 63:17	37:16 38:5	appearances 2:1
108:8 125:4	adhesives 162:2	113:21,22	40:10 41:15,19	appears 137:24
183:21 187:20	administrator	115:11 162:15	51:22 57:15	appendix 51:18
189:24 194:12	210:22	162:16,17,19	91:21 108:3	89:13
194:18	admit 31:2	162:23 163:1,5	127:19 130:23	application 64:2
abovenamed	admittedly	al 1:9 5:8,11	164:1 174:2	76:17
210:7	91:13	69:2 74:22	180:2,14	applied 126:22
abraham 110:6	advance 104:19	143:2	182:16 199:16	198:4,5
110:11	advanced 33:15	allen 2:3,8	analyze 34:21	apply 79:23
absolutely 90:7	advances 104:21	allow 117:6	107:12 108:12	135:4 193:23
113:11 143:24	affirmative 44:9	182:20	120:18 134:16	applying 198:1
abstract 69:16	afternoon 132:1	allowed 104:8	135:8 173:22	appointment
190:24	age 49:22 50:6	104:12 105:1	174:6 182:20	33:20 153:14
accept 46:5	155:7	144:23	182:21	153:15
134:22	agents 148:3	allows 20:8 91:9	analyzed 118:24	appointments
accepted 102:17	209:12	115:1 117:7	119:19 145:5	33:18
104:2 110:24	ago 17:15	134:22	182:5	appreciate
157:10 197:23	111:13 170:17	alternate 207:10	analyzes 206:5	92:23 93:19
account 50:19	agree 63:13 71:7	207:15	analyzing	100:4,5 106:16
82:10,21 83:14	72:3 73:22	aluminum 73:8	135:24 204:16	approach
141:23	74:17 78:3	120:8 121:4,6	angeles 85:16,22	103:10,17
accurate 61:1	90:3 133:5	133:11 174:19	angle 116:15	110:22,23,24
86:2 211:16	144:18 148:11	174:21 175:9	animals 148:6,9	193:23
acknowledged	150:22 153:5	175:10,12,13	answer 8:8	approaches
180:7	156:24 157:8	175:13 176:2,6	46:15 106:15	103:10 126:22
acknowledging	159:12 161:4	176:8 178:15	133:2,4 164:11	appropriate
148:16	200:21 203:24	178:17,22	191:24 192:9	124:14 129:11
acknowledgm...	209:7	179:2 208:6,11	193:12 202:14	201:15 211:5
213:1	agrees 157:16	amazed 59:17	answered 193:9	appropriately
action 210:13,16	160:4	ambient 27:5,18	196:20	159:23
actions 114:2	ahead 25:17	29:1 162:15	answering	approximately
activity 175:7	57:19 97:20	163:1	191:23 192:15	13:22 71:3
add 52:4 156:19	131:11 184:23	amended 4:15	192:16	april 4:16 9:7,24
added 39:4	193:10	9:16	answers 213:4	10:3
43:13 51:24	ahern 2:17 4:5,9	amount 16:10	anticipation	area 58:10 60:2
101:2 105:17	7:17 167:20,21	126:14 129:19	41:17	61:14,21 71:24
addition 177:19	167:22 175:23	130:4 136:13	anybody 24:19	78:12 80:1
additional 13:18	178:13 187:19	195:3	64:16 193:16	85:20 92:15
14:18,21	192:23 194:11	amounts 61:10	anymore 111:8	93:1 105:13
175:24 176:1	197:8 198:9	122:12 127:3	anyway 20:22	111:24 112:1
176:15 178:7	202:12 203:24	analyses 24:12	apologies 144:3	142:14 172:1
183:4 189:17	204:2 205:10	24:16 25:7	apologize 98:11	184:11,17

185:5,23 186:1 192:6 areas 60:5 79:21 119:17 arent 57:19 183:15 190:8 191:1 arrived 193:3 arrow 98:14,17 98:19,19 100:14,15,19 181:22 article 5:8,11 31:5,10,13,20 68:20 69:2,21 69:22 70:7,7 70:13,22 71:12 71:23 72:8 74:21 75:1 76:20 77:21 78:17 80:8 85:13,14 142:20,23 143:2 203:1,5 articles 31:8,14 84:24 85:8 145:20 167:7 articulate 90:5 asbestos 43:9,11 44:1,15,22 45:1,5,7,15,16 46:19 74:14,19 126:11 127:10 127:15 128:7 128:11 129:14 129:14 130:7 131:5,7 142:13 192:24 193:13 193:15,19 194:14,19,22 195:19 198:3 asbestosrelated 43:22 195:7 aside 24:4 182:11 asked 14:8	18:11 25:22 32:11 40:2 42:7 43:15,16 46:7 57:8 67:18 101:11 101:17 106:16 132:9 163:7 172:23 173:20 173:21,23 174:1 179:22 179:24 180:13 180:20,22 189:4 193:9 196:19 204:10 204:19 206:12 207:8 208:5,24 asking 7:23 8:2 39:16 40:3 57:2 171:10 172:22 176:5 188:16 202:22 asks 12:16 asphalt 162:4 assertion 78:1 asserts 87:4 assessed 91:2 assessment 54:6 110:7 associate 26:24 190:1 associated 35:23 36:18,18 39:2 133:16 147:13 150:14 157:4 160:20 161:1 164:15 176:23 179:1 195:6 209:17 association 41:6 48:18 69:17 70:23 71:8 84:19 87:5 125:6 133:18 159:19 169:2,3 169:7 170:2 176:8,16	177:22,23 179:1,6 associations 168:23 assume 54:18,20 77:21 137:17 138:9 198:22 assumed 58:3 assumes 178:10 assure 112:16 atlas 84:8 202:1 202:3 atomic 83:13 199:5,7,10,11 200:12,13,22 201:3 202:5 attached 133:7 133:22 211:9 213:6 attorney 25:13 210:12,14 211:13 attorneys 35:22 36:5,15,18 54:15 au 114:17 aunt 49:21 austin 3:5 australia 5:15 151:18,21 152:4,15 153:10 author 70:8 77:20 85:14 authored 31:6,8 authors 87:22 146:13 157:23 158:12 160:6 168:21 automatically 133:8,23 134:2 availability 141:14 available 111:20 163:1 191:11 avenue 1:20 3:4	6:13 avoid 20:21 44:21 avoiding 21:19 aware 30:20 41:24 48:7,19 65:2 66:11 149:9,15,23 150:3,5,11 162:13 163:8 164:19 165:10 165:13,18 178:2,14 204:22 208:10 209:15 aztec 115:19 <hr/> B <hr/> b 2:5 4:12 146:24 147:3 back 12:5 13:5 16:7 17:1,11 24:5 50:8 53:6 60:10 63:8 67:7 70:5 77:3 77:4 80:6 91:12 105:10 106:6 107:7 110:1 111:12 119:7 133:19 141:22 142:11 156:2 158:19 171:22 179:9 186:17 190:10 194:15,18,20 200:12 background 102:12 backscatter 116:7 117:3 163:23 backscattered 116:18 bacon 2:18 bacteria 52:24 198:4	badly 142:3 bag 22:7,9,11 23:12,16,18,20 41:8 112:6,8 112:11 bagged 112:8 bags 112:13 balance 82:23 ball 38:7 base 196:18 based 51:20,22 55:8 102:4 117:24 128:12 132:21 158:19 171:20,23 190:4 191:10 195:8 197:12 198:2 199:14 203:12 basic 78:1 basically 96:23 166:4 basis 33:4 127:6 130:11 basophilic 95:6 bathing 121:20 beach 121:19 beam 72:17,18 103:23 104:18 129:4,17 bear 167:24 beat 142:2 beginning 154:9 begins 59:24 behalf 35:22 believe 17:13 18:4,10 25:18 35:18 36:23 60:21 64:4 83:18 85:20 86:6 118:13 148:20 155:14 156:3 158:24 165:1 176:20 201:10 202:4,8 203:8 204:20
---	---	---	--	---

benefit 141:5 142:4 168:2 benefits 142:5 berg 17:6 20:19 35:12,16,21 38:6,9 41:20 102:15,22 106:24 107:5 116:1 170:24 171:5,8,8,12 202:16 best 174:13 better 91:13,14 105:1 107:4 116:3 129:15 143:23 184:4 188:22 big 68:6 104:19 124:10,10,15 129:23 184:6 bigger 123:3 bill 136:21,22 137:23 141:22 billed 13:17 45:22 141:21 billing 4:21 12:7 12:10,12,16,21 13:8 38:8 136:9 138:7 140:7 141:9,11 141:16,23 billings 13:11,18 bills 35:7 38:13 39:5 bio 5:7 27:8,14 28:5,7,14 29:4 29:7,8,12,22 30:3 biohazard 23:13 biology 60:6 68:7,17 188:17 biopsy 89:11 bios 30:7,15,21 biostatistician 172:21 173:1 180:10	biostatistics 172:18 birefringent 98:13 99:12 182:7,10,11 bit 7:5 11:11 13:7 47:22 53:8 60:17 69:8 72:20 99:24 100:7,11 108:5,13 125:9 136:5 167:24 168:9 175:19 184:4,19 biweekly 141:12 black 61:8 94:10 100:5 blackened 60:2 blade 105:14 blaes 1:6 9:22 10:7 26:8 38:6 38:9 41:20 49:1,20 50:5 65:6,21 66:9 89:5 106:23 107:11 118:23 137:24 139:13 145:6 173:18 204:22 205:4,6 206:15 207:13 blaess 49:10 50:18,21 52:16 57:10 59:12 60:24 66:3 81:2 101:7 125:5 126:24 132:17 163:17 174:3,9 175:10 175:12 176:3 178:8 186:8 193:4,7 197:18 207:2,11 blair 2:10,15 25:13 blobs 92:11 block 20:8,12	22:9,12,13 23:9,18,20,21 23:24 101:21 101:22 103:12 103:18 104:9 105:13,16,18 106:4 110:16 114:6,7 115:9 118:16 123:4 128:24 129:1 184:2,3 185:14 185:22 186:4 blocks 5:2,4 19:3,22,23,24 21:11 22:2,10 22:12,17,23 23:4,17 39:16 39:17,19,21,24 40:1,3,11 101:11,16,18 101:19,24 102:2,6,9 105:23 110:2,6 112:5,15,17,23 113:4,22 118:6 118:10,22 137:16 183:5 blood 95:5 blue 92:11 94:12 94:15,17,18 blvd 2:5 bodies 45:15 94:23 95:1,3,8 95:10 129:14 146:18 body 8:10 29:5 29:10,19 43:10 43:11 44:1 45:2 53:22 54:3 55:3 57:10 59:12,17 60:16 62:5,15 63:11 64:1 87:3 88:23 95:6,12 101:7 121:23 125:22	132:21 133:13 133:14 134:9 134:22 135:8 135:11,12 136:1 145:14 145:16 151:2,3 168:8,10,11 169:6 171:23 177:4,17 193:13,19 195:13 198:7 204:17 book 84:10 boston 1:21 6:13 bottom 80:13 88:8 93:24 197:2 bouncing 116:14 bounded 92:21 box 21:15 22:1 81:12 82:9 brca1 48:16 157:6 205:7,19 206:4 208:24 209:3,17 brca2 157:6 205:7,20 206:4 209:18 breadth 28:12 break 7:5 25:11 67:7,13 126:5 131:12 132:5 breast 29:17 48:20 49:1,21 50:6,18 108:6 178:15 204:21 205:4,21 bridge 167:17 203:22 brief 67:6 briefly 21:24 208:21 brigham 5:16 6:16 29:14 33:19,21 34:13	48:4 107:15 111:20 153:15 153:19 154:4 154:13 155:18 156:11,18 bright 97:13,24 117:5 brighter 96:22 97:13 bring 88:6 142:6 broken 108:14 bronchi 62:10 brought 8:14 136:7 140:16 140:22 141:1 budke 15:2,2 17:1 building 6:19 bulb 91:6 burner 16:6 business 6:11 29:24 <hr/> C <hr/> c 6:1 72:22 calc 73:16 calcification 52:1,4,13 95:9 108:23 calcifications 92:12,14,18 94:16,17,21,22 95:10 calcify 95:13 calcium 52:7 109:5,10,10 119:4,8 122:12 123:17 124:5 124:16 184:6 185:24 186:2 188:19 190:2 calculate 82:20 caldwell 17:10 californiabased 85:16 call 62:8 78:8
---	---	--	---	---

81:1 94:5,13 97:14 called 67:22 74:12 80:19 84:13 104:6 105:3 114:9 116:13 141:23 142:21 160:22 199:23 203:1 calling 175:19 cambridge 111:15 camera 99:2 cancer 5:10,13 5:14,14,16 17:13,14,20 30:4,11,22 31:9,16 33:10 35:24 36:6 47:1,21,24 48:3,11,20,20 48:21,22 49:2 49:11,21 50:6 50:13,18 52:16 64:10 69:4,18 70:2,13 76:21 77:1,9,14,17 78:22 84:20 86:13,18,24 88:17 95:9 125:5 132:15 132:23,24 133:17 145:17 145:20,21 146:10 149:12 150:6,11,15,20 151:6,15,17 152:2,3,4,14 152:17,20 153:2,3,7,9 153:20,23 154:3,22,23 155:5,7,12,15 156:4,7 157:2 157:3,9,17 158:16 159:15	160:5 165:16 165:21 168:24 169:7,18 170:4 171:4 172:12 176:9,17 177:24 178:15 179:2,7,17 180:4,9,16 189:6 190:15 196:23 203:3,7 203:13 204:21 205:4,21 208:11 209:8 209:17 cancerous 133:7 cancers 48:8 cant 8:10 49:17 55:2 60:24 63:9 66:13,21 67:3 77:11 101:6 103:13 117:17 120:11 120:24 163:9 163:24 164:2 164:16 168:20 169:14,14 171:13 182:12 capability 105:5 caption 81:7 92:3 carbon 20:5 72:21 102:16 103:4,12,16 105:7 124:10 carbonaceous 116:21 119:3 carcinogen 146:21 147:6,8 147:12 148:17 177:15 178:4 carcinogenic 147:16,19,21 carcinogenicity 148:4,5,7,8,12 148:13,19 carcinoma 5:12	51:16 91:18 93:4 94:24 142:22 143:3 158:23 159:4 carcinomas 52:3 52:12,12 cardiac 27:24 career 62:14 careful 63:20 carefully 99:23 102:23 136:9 211:4 carlos 140:4 case 1:7 4:19,22 7:8,21,24 8:15 9:14 10:24 11:6 13:9,17 14:6,10 15:4,7 15:21 16:3,22 16:23 17:5,12 17:13,18,19,21 17:23 18:4 20:19 24:18 26:3 34:19,21 35:12,16,20,21 37:24 42:18 43:7 45:24 50:3,11 52:3 54:8 56:18 58:13 61:15 65:14 69:13 70:10 71:19 73:20 77:10,11 77:15,24 80:5 86:3,10 89:4 101:24 102:15 102:22 106:23 106:24 107:8 107:24 109:6 116:1 120:13 128:9 129:22 132:13 133:10 135:9,16,24 136:7 137:24 139:13 140:7 141:7 145:14	150:21 163:20 169:16 170:12 170:21,22,24 171:6,8,8,12 171:18,22 173:15 174:12 174:24 175:1,1 177:16 195:15 197:18 202:16 205:5 207:11 cases 35:22 36:4 36:8,13,14,22 37:1,3,11,16 37:19 38:9,15 40:5,14,21 41:9,18 42:23 43:2,14,22 44:4,15,22 46:1 47:7,8,11 47:12,17,17 54:4,11,13 55:4,5,13,14 56:22 57:10 79:5 88:11,16 90:18 142:7 154:24 181:4 188:2,13 190:5 190:6,14,19 191:2,24 196:22 197:4 catalyst 28:20 29:13 category 42:3 147:3 148:2,17 causal 50:11 77:8,14,16 86:11,16 87:10 87:11,15 132:13,19 177:22 causality 70:18 71:12,22 77:24 causation 65:14 173:8 causative 165:15 cause 15:11 48:7	49:10 52:15,20 52:24 53:2 87:2 154:23 157:1,2 159:20 165:20 caused 133:23 134:4 causes 52:15 125:5 133:8,12 145:21 146:9 154:22 157:9 157:16 158:16 160:5 causing 16:6 caveat 203:18 cavity 57:24 71:24 cd 24:7 174:14 187:22 cell 163:22 164:1 cells 58:18 91:9 93:3,5 95:7,16 163:15 164:14 164:16,17 cellular 98:5 184:4 center 2:5 4:18 10:10,14 26:6 84:13 89:21 110:3 111:14 centimeter 128:7 century 104:3 ceramics 161:24 162:1 certain 48:16 67:23 116:15 120:14,15 191:7 195:4 certainly 13:15 15:21 28:15 29:3,22 30:2 53:3 57:23 63:13 66:2 73:13 74:17
--	--	--	--	---

209:3 certainty 86:10 132:12,21 certify 210:5,11 213:3 cervix 5:12 58:5 58:20 89:12 142:22 143:4 chalk 105:21 challenge 8:11 challenged 70:19,22 71:13 71:22 chamber 103:22 104:13,18 chance 20:9 131:6,8 167:3 chances 182:23 183:6 chang 64:19 157:22 158:18 159:10,13 160:2 change 41:11 104:16 114:24 144:1,4 212:3 changes 213:5 characteristic 98:6 characteristics 93:2 183:22 184:1 charge 12:17 49:8 135:16 136:2 charges 136:8 141:11 charging 114:22 chase 2:19 chasing 109:6 check 30:15 115:7 139:22 chemical 117:2 199:24 200:3 chemically 74:14	cherrypick 119:14 chest 61:11 chewing 161:9 children 16:12 205:23 childrens 16:13 chimney 16:9 chloride 123:12 123:15,24 choose 188:13 circulate 59:19 63:6 circumstance 7:11 citation 70:4,11 cite 74:21 89:8 168:20 cited 70:14 127:7 cites 70:6 citing 126:12 citizens 149:10 city 61:7 claim 35:23 59:11 62:2 77:12 claiming 15:17 16:5 77:8,13 clarify 22:15 159:7,14 181:8 classification 177:14,20 classified 178:3 clean 105:14 cleaned 20:13 105:13,13 clear 58:22 71:14 108:10 118:6 125:10 132:10 159:17 172:4 183:16 185:4 clearance 62:8,9 62:15 cleared 62:22	clearly 76:10 92:16 117:18 clicks 154:11 clinical 43:13 109:21 110:21 110:21 clinically 108:7 clorox 45:10 close 58:19,20 64:2 192:14 201:6 205:20 clr 1:24 210:3 clustering 98:21 cm 22:11 coat 104:15 coated 45:16 65:3 100:23,23 100:24 114:17 115:5,13 coating 45:8 coauthor 31:7 69:12 71:18 coauthored 31:8 68:20 127:14 cohort 150:21 169:17 coleman 203:1 colleague 62:13 colleagues 34:20 77:5 collect 56:15 collected 116:19 collecting 13:19 56:10,11 188:2 188:3 192:13 collection 190:16 color 94:11,12 colorectal 48:20 column 77:7 78:19 143:16 144:7,8 com 2:15,23 3:7 combination 134:8 come 12:5 16:7	20:18 33:24 34:8,11 46:2 50:8 53:6 54:5 61:3,4,22 62:9 64:16,20,22 67:7 80:6 103:6 105:24 106:1 119:16 158:1,15 174:6 202:16 203:22 203:22 206:5 comes 46:12 54:9 97:5 128:18 141:22 202:2 comfortable 24:4 180:12,17 coming 20:22 72:23 97:2,6,8 116:15 121:7 121:10,12,21 commensurate 16:11 comment 74:12 92:13 122:24 155:2 commented 92:12 commission 213:17 common 90:8 94:23 commonwealth 210:1,4 communicating 8:6 community 157:10,16 160:4 companies 104:22,23 company 16:2,5 16:7 155:21 comparable 126:10,13 compared	128:20 comparing 184:22 196:7 compatible 72:10 73:16 74:10 complaining 106:18 complete 9:13 10:20 completely 72:19 168:3 184:8 complicated 140:20 182:17 components 93:9 124:22 composition 119:20 120:2,6 120:16 166:1 compound 177:23 concentrating 121:17 concept 86:22 91:15,16 197:22 concerning 169:11 conclude 152:24 concluded 75:14 75:17 146:19 150:5 151:4 209:23 concluding 50:10 conclusion 50:17 64:17,20 64:23 132:10 133:15 134:3 134:10 146:13 150:17 158:1 158:15 159:1 177:16 193:3 193:18 203:11 conclusively
---	---	--	---	---

72:1 condom 65:3 66:4,21 67:2,3 207:9 condoms 65:7 65:20,22 66:10 207:12 conduct 175:24 176:1 182:16 conducted 149:23 confidential 1:13 configuration 93:3 configurations 184:15 confirm 91:18 106:11 confuse 53:7 confused 80:18 158:9 confusing 174:11 198:21 confusion 181:11 congress 3:4 connection 32:19,20,21 35:15 58:17 connections 58:22 consent 190:12 consents 189:9 consider 12:1 57:22 177:20 180:1,6 208:6 208:14,14 consideration 134:23 135:1 205:12 considered 175:5 176:24 177:3 considering 134:24 135:2	consistency 151:3 consistent 74:7 75:11,22 76:1 76:12 83:18,19 83:22 118:1 187:1,2 consult 37:9 consulted 36:9 40:22 contacted 156:17 contained 161:4 container 106:7 113:22 115:10 containing 5:5 22:1 25:2 150:2 contaminants 90:5 contaminate 90:9 103:24 contaminates 113:23 contaminating 20:11 contamination 21:19 63:22 73:10 90:23 105:16 112:17 115:6,9,13,16 content 45:13 contention 103:1 contentions 159:3 context 8:4 12:2 20:3 47:3 55:14,16,17 109:17 123:8 192:1 contiguous 90:21 continue 111:22 190:5 continues 88:20	continuing 70:16 continuously 79:14 137:8 contribute 66:7 67:3 control 150:21 169:17 176:22 177:8 conventional 103:21 convince 156:18 convincing 101:15,15 102:3 copied 51:4 copies 12:14 51:4 copy 26:3 143:22,23 152:10 copying 144:2 corner 152:14 154:19 198:19 correct 6:22,24 9:9,22,23 11:1 11:2,15,16 14:16,17,23,24 15:5,6,14,24 17:3,4,8 19:3,4 19:20 21:5,6 22:19 23:5,6 23:10,14,15 24:22,23 26:11 26:12,15 27:1 27:2,3,18,19 27:21,22 28:1 28:4,9 29:6,7 30:4,5 31:11 31:17,23 32:1 32:4,5,7,8,16 33:7,8,10,11 33:12,13,19 34:2,5,23 35:1 35:2,4,5,6,9,10 35:12,13 37:12	37:13 40:8,12 40:16,17 41:16 41:21 45:3 48:1 49:6,7,12 52:20 53:12,13 53:16 54:24 55:3,15 56:3 59:5,7,8 61:2 63:15,17 64:23 66:6,15,23 67:19 68:1,2 69:13,14,19,20 69:22,23 70:2 70:15,19,20,24 71:1,3,15 72:1 72:2,4,10,11 73:18,19 74:4 74:7,15,16,22 75:6,11,12,16 76:2,3,17,21 76:22 77:2,10 77:15,18,21 78:1 79:15 80:16 81:2,3 81:10,11,16,24 82:1 84:20,21 86:13,14 87:18 87:19,24 88:12 88:13,18,19 89:6,7,14,15 89:18,19 90:2 91:20 96:17 98:14 107:1,2 110:9,10,14 111:5 112:6,18 112:19 113:7,8 113:24 114:11 118:8,9,24 119:7 120:3 122:5,13 125:22,23 126:19,24 127:1,4,5,8,11 127:12,16,17 131:4 133:24 134:1,6,11,13	134:14,18 135:11,18,19 135:21,22 136:2,3,10,11 136:14,15 137:19 138:4,5 138:6,8,10,14 138:20 139:1,2 140:5,12 142:16 144:16 145:17 146:11 146:14,19 147:4,6,7,16 147:17,19,21 148:10 149:5 150:18 151:7 151:12,15 152:20 153:17 154:15 155:1 155:19 156:12 156:14 159:21 160:10,14,16 162:20 163:12 166:9 168:13 168:14 169:8,9 172:6,7,9,10 172:12 173:2,5 173:9,10,13,14 173:18,19 177:16 179:12 179:13 180:10 180:11,21 181:13,14 183:12,13,18 183:19 185:15 187:2 188:6 190:2,20 196:15 197:20 199:16 200:1 200:19 204:12 204:13 205:24 206:2,7,10,17 206:18,20 207:4,6,22 208:1,3 209:5 213:4
--	---	---	--	---

159:24 correcting 158:10 corrections 211:4,6 213:5 correctly 40:8 54:19 107:3 130:2 correlate 75:16 78:23 188:4 191:18 corresponds 184:7 cosmetic 5:10 69:5,17 150:1 150:2 cosmetics 162:11,12 cost 137:10 costs 138:1,1 couldnt 103:19 183:16 206:15 council 5:14 151:18 152:4 152:14 153:10 counsel 173:16 204:10,19 207:8 208:8 count 125:16 128:4,5 counting 43:16 194:22 country 43:9 85:18 counts 43:10,11 45:2 82:8,18 83:4 199:12 201:2 couple 7:15 45:20 51:4 68:19 78:16 85:10 97:16 105:15 111:12 136:12 188:23 204:4,20 205:3 course 74:2	courses 172:20 court 1:1 18:5 43:19 46:12 211:16 cover 19:9 covered 45:16 113:22 134:12 168:1 cramer 5:8 31:6 31:10,14 32:21 42:4 55:17 56:8 68:21 69:2,12,22 70:7 87:23 127:15 135:8 145:19 157:14 160:2 171:5 188:2,24 190:17,22 191:16 cramers 85:11 85:12,19 170:20,23 171:7 188:11 189:13 creating 109:1 credibility 155:23 credit 140:17 criteria 191:3,6 191:12 192:5 cross 62:4 167:16 203:21 204:8 crossing 62:19 crossreference 122:23 crystalline 117:1 csr 1:24 210:23 current 9:5 79:4 149:18 152:23 currently 19:6 43:1 111:11 149:24 curriculum 4:14 8:24	cut 16:8 91:8 102:15,15 114:3 129:7 183:4 cuts 105:15 114:12,22 cutting 105:19 cv 8:21 9:4,5 28:11 31:4 68:12 <hr/> D <hr/> d 1:15 4:3 6:1,3 213:8 dark 92:11 94:14,17,18 100:4 117:4 darker 94:10,12 data 5:5 24:7 25:2 43:23 56:10,11,15 84:14 87:18,22 106:12 118:1 188:2,3 190:15 195:8 197:10 197:19 199:19 201:21 202:18 date 37:17 211:9 213:8 dated 9:7,24 day 210:5,18 213:16 days 45:20 211:13 daytoday 33:4 deal 31:15 46:6 146:5 169:18 dealing 31:9 115:15 death 15:11 debris 95:15,16 decadeslong 207:2 decided 39:13 declared 165:15 165:20	deemed 211:16 deep 129:16 143:13,19 144:14,19 206:17 deeper 183:7 deeply 171:14 defendant 2:16 3:1 7:21 17:22 17:23 47:19,20 defendants 1:10 defense 15:17 16:24 102:22 207:8 defer 87:22 181:1 define 38:19 40:2 95:14 147:3 defined 95:15 200:11 definite 59:20 definitely 34:8 101:2 162:17 204:18 definition 149:3 149:4 184:4 definitions 148:2 definitive 150:7 degeorge 16:1 43:7 degree 86:9 88:6 132:12,20 151:10 191:7 degrees 33:15 deionized 113:5 114:16 demonstrable 16:15 denial 151:13 denied 149:15 149:22 department 26:14 28:23 29:14 30:8	39:17 88:12,17 107:9,18,20,21 111:21 departments 39:18 depend 87:16 depending 59:23 61:20 141:19 184:10 depends 28:19 34:6 52:21 62:3 63:3 183:24 deponent 213:1 deposed 44:3,20 deposing 46:4 211:12 deposited 62:17 66:3 deposition 1:15 4:15 6:23 9:4 9:11,17 11:4 13:19,20,24 15:3 17:5,10 18:5 21:23 25:20 43:17 68:22 85:5 92:13 106:16 140:10 171:16 187:24 202:20 209:22 211:3 211:10,14,15 depositions 14:15,20,21 depth 128:14,24 depthwise 129:9 describe 20:13 24:13 112:20 115:17 134:9 described 21:4 69:19 102:2 106:24 110:6 110:12 describes 28:21 description 4:13 designed 90:5
--	---	--	---	--

destroying 183:1 detail 24:20 50:9 57:2 80:6 102:7 192:7 details 17:15 detect 117:3,7 detector 116:16 116:19 detects 116:16 determination 45:17 177:21 194:3 199:13 determinations 44:1 46:7 determine 49:9 57:22 73:15 150:13 162:24 173:16 176:7 176:15 195:10 determined 54:21 128:3 determining 200:19 developing 192:5 development 50:12 64:10 86:12,18,23 104:6 110:19 132:14,24 195:6 developments 104:4 device 104:24 devising 197:5 diagnose 48:2 diagnosed 49:21 50:6 189:5 204:21 205:4 diagnoses 47:2 diagnosis 17:14 33:22,23 34:4 49:15,16 88:22 91:18 diagnostic 88:11	88:16 diagonal 94:1 didnt 19:24 27:12 75:23 79:8 85:4 96:2 96:11 104:1,15 105:10 137:20 158:8 171:15 197:2 203:21 209:4 difference 127:18 different 40:19 53:8 64:1,22 74:15,19 78:12 83:5 85:17 87:11 97:12 99:6 106:23 124:12 127:16 131:4 155:6 162:23 168:24 175:19 181:12 182:1 184:9,10 186:4 189:16 192:16 differential 104:11 differentiated 51:15 93:8 difficult 33:22 33:22 34:3 88:11,16 diffraction 84:13 digest 45:10 128:2 195:1 digested 196:1 digestion 45:20 128:5 194:23 194:24 195:8 195:14,15 196:8,22 digestionbased 195:14 dimensions 129:23	dioxide 175:6 178:3 direct 6:6 141:5 directing 19:7 direction 58:9 79:22 97:1 151:1 210:10 directly 20:12 46:8 62:17 105:22 139:16 139:17 141:9 dirt 120:11 175:17,20 disagree 51:21 146:8,13 150:17 151:5,9 151:13 153:9 153:13 155:2 155:17 157:12 discard 119:22 discovered 209:4 discuss 11:13 160:11 173:12 discussed 10:17 26:10 47:23 91:19 discussing 32:1 63:24 66:12 143:11 discussion 25:12 37:6 53:1 166:19 198:15 209:1 disease 16:14 31:19,22 88:11 108:19,20 159:8 205:23 208:15 diseases 195:7 disk 5:5 24:15 24:21 25:2 103:13 105:7 125:1 166:23 167:12 203:19 disks 102:16,21	103:5 dispersed 143:14,20 144:15,21 dispersive 89:1 distally 60:8 distinction 82:9 93:8 distinctive 45:9 distinguish 47:8 183:22 district 1:1,2 division 1:3 doctor 6:12 25:17 34:13 78:16 132:5 170:11 185:12 doctors 107:10 document 4:19 5:13 11:6 13:4 152:2 187:10 documented 57:6,7 documenting 24:16 documents 8:14 25:16,19 52:17 doesnt 20:18 30:24 63:5 98:6 105:24 107:15 109:7 112:14 134:2 149:1 157:6 186:1 doing 12:7 37:16 40:23 41:14 55:9,12 79:5 101:9,13 105:6 109:2 119:11 130:11 136:23 139:4 164:1 174:5 183:4 188:20 190:16 192:9 194:21 211:8 dont 8:2 15:2	18:7 21:18,20 22:5 24:2,2,3 25:10 26:21 30:14,24 31:12 33:3,6 35:17 38:12 39:18 45:5 46:10 47:15,23 48:2 49:12 51:5,7,8 54:7 57:20 62:7,21 65:9 65:10,20 66:2 66:11,16 67:6 68:15 81:20 92:1,3 93:4 96:7 100:16 102:7 103:5 107:14 113:14 114:3,22 119:13 122:20 122:23 123:19 125:21 138:2 138:22 142:10 142:18 143:8 144:3 145:2 149:18 153:24 157:5 158:3,11 161:15,16,19 161:23 162:3,5 162:7,9 163:4 167:4,8 168:4 169:2,3 170:9 170:15,16 172:24 173:3 174:10,15,23 176:4,12 179:5 180:8 181:21 184:23 187:8 198:11 200:5,9 201:8 203:16 208:14 209:9 209:11 doseresponse 64:8 dots 94:15,18 double 113:5
---	--	--	--	---

114:16 dozen 34:15,18 44:24 dr 4:14,16 5:1,7 8:24 10:3 20:24 26:1 27:8,16 31:6 31:10,14 32:21 32:22 37:8 42:4 55:17,18 56:8 64:13,15 65:2 67:13 68:20,21 69:12 69:22 70:7 84:17 85:11,12 85:13 87:23 127:15 135:8 136:19 139:5 139:12 145:19 157:8,14,19,24 158:15 159:12 166:24 167:23 169:15 170:11 170:20,23 171:5,7 185:10 188:1,2,11,24 189:13 190:17 190:22 191:16 198:14 drain 61:11 draw 181:22 dried 113:14 drink 63:15 drop 95:5 drying 113:21 due 136:13,16 141:1,6 160:1 duly 6:4 210:7 duplicate 12:24 duration 71:14 159:5 dust 16:10	earlier 14:19 26:10 44:2 67:16 88:15 101:5 111:4 121:15 125:9 127:14 134:12 137:2 163:11 164:24 174:18 177:13 181:20 183:14 187:24 192:20 204:10 204:19 205:1 206:12 207:8 208:5 early 192:8,11 easier 117:7 172:23 easily 20:15 eastern 1:2,3 easy 144:6 162:10 edges 100:8 eds 4:19 10:24 11:6 80:19 84:10 edx 80:14,20 81:4 83:18 84:10 effect 149:14 effects 16:15 effort 54:10 efforts 140:23 141:2 eight 79:12,15 79:19 either 13:12 22:20 39:5 40:15 43:15,17 46:21 79:9 117:14 136:17 137:6 141:5 148:11 164:15 electron 5:3,4 20:2 21:12 22:3,18,24 26:17 28:22	37:20 52:6 75:8 88:24 103:19,21 104:5,7,10,18 104:23 105:22 106:10 107:12 107:16,17,19 108:2 111:9,19 116:10,10,12 116:19 119:10 129:4,17 136:24 141:15 electrons 114:23 116:13,14,17 116:18 element 82:11 83:15 178:23 199:12,14 elemental 120:2 120:5 elements 82:22 83:17 122:11 208:7 em 28:21 104:20 105:3 111:23 112:2 118:14 129:1 email 4:24 19:7 19:14,17 39:24 embolism 15:14 47:1 emission 116:2 emphasized 29:2,21 employed 6:15 6:16 210:12,14 employee 210:14 enclosed 163:17 164:3 enclosing 19:2 encompass 35:8 ended 18:4 60:24 119:18 197:5 202:16 endogenous	24:17 73:12,14 119:5,21 120:9 endometriosis 48:17 endometrium 89:12 ends 56:24 57:4 energy 88:24 111:9,16 enter 29:5,10 71:24 entirely 8:3 150:24 entitled 10:24 13:8 152:17 203:6 entity 136:20 entries 138:3,18 139:19 entry 64:2 137:10 environment 16:20 29:1 63:22 environmental 16:18 26:14 28:23 30:9 104:7,20 105:1 209:12 environments 162:24 epidemiologic 41:6 69:16 165:19 173:8 epidemiological 84:18 87:18,22 134:17,20 135:9,11 136:1 171:12 202:18 epidemiologist 33:12 87:21 134:13 172:5 173:4 180:8,9 180:9 181:2 epidemiologists 172:14	epidemiology 33:15 132:22 168:8,12,16 169:4 171:3 172:9,12 173:12 177:19 179:11,16,23 180:3,17,23 188:21 202:13 202:15 equipment 115:17 errata 211:6,9 211:12 213:6 error 23:8 escalator 62:10 escapes 85:14 especially 58:15 119:8 122:6 184:14 esq 2:3,10,17 3:2 essentially 20:9 45:11 56:18 72:17 81:23 82:8 84:9 97:8 103:24 105:8 116:4 120:13 127:24 146:4 183:2 establish 77:24 78:20 79:3 135:6 195:4 established 64:9 151:16 establishing 173:8 estimate 7:8 13:21 14:3 35:17 37:8,12 37:14 38:4,7 40:14 44:18 47:6,10 169:24 estimating 197:16 et 1:9 5:8,11 69:2 74:22
<hr/> E <hr/> e 2:12 4:12 6:1,1 212:1				

143:2 etcetera 102:10 ethicon 15:2 17:2 ethnic 48:17 etiologic 86:23 etiology 159:8 159:15 evaluated 75:5 event 158:14 eventually 95:13 evidence 50:11 64:4 65:13 86:11 87:9 132:13,17 148:4,5,6,8,12 148:13,19 149:2 150:6,13 151:11 152:23 168:8,10 169:6 178:11 183:5 exact 146:16 exactly 17:16 107:6 163:4 164:16 206:13 examination 4:2 6:6 204:8 208:7,22 210:9 examined 6:5 16:13 195:20 210:8 examines 126:9 examining 194:7 example 10:19 20:20 24:10 28:20 52:22 61:3 62:6,16 84:11 108:15 120:7 123:11 133:11 137:9 139:18 140:6,8 157:1 166:9 184:1 examples 10:18 11:21 84:4 85:19 122:18	123:9 124:23 exceed 141:18 exceedingly 129:24 exception 49:5 exclusively 11:20 excuse 181:4 exhibit 8:23 9:3 9:15 10:1,2,11 10:12 11:3,5 12:10,11,20 13:3,8,23 14:9 14:13 18:20,24 19:13,17 20:23 21:3,10,21,23 22:5,17,22 23:4,11,12 24:22 25:1,6 26:5 27:7 35:1 49:6 50:24 68:22 69:1 72:14 80:4 86:1 123:1,2 123:21 136:6 140:1 143:1 144:1 152:1,8 154:2,12 167:6 167:7 181:9 184:24 185:11 187:22 198:17 exhibits 5:19 exist 31:1 expect 62:19 73:4 77:12 83:2,6 120:11 164:20 175:15 193:22 196:9 expected 81:9 125:13 expensive 104:20 experience 7:14 88:5 experimental 148:6,8	expert 4:17 7:7 9:19,21 10:3 14:7 16:21,23 17:2 18:3 36:21 37:10 43:2 44:8,14 44:16,23 46:19 46:20,24 47:10 47:11,14 88:20 106:8,9 134:16 173:6 179:15 180:13,16 181:3 expertise 16:18 34:14 46:21 experts 42:4 46:5 54:18,21 expires 213:17 explain 59:3 72:14 82:15 91:3 92:2,4 96:18 114:20 181:22 188:9 193:5 explaining 25:15 explanation 59:11 62:1 exploratory 149:24 explore 192:6 exposed 59:5 105:20 108:24 114:7 exposure 5:10 16:16,19 28:1 28:2 54:22 69:5 126:16 150:14 158:22 159:3,6 162:14 162:19 193:15 193:17,21 195:9 207:10 207:15 express 157:23 expressed 82:2	expressing 86:3 expressway 16:12 extensive 15:16 extent 59:18 63:4 148:23 190:7 external 153:1,6 extract 45:11 extraneously 101:2 extrapolate 130:7,16 193:7 extrapolates 130:18 extrapolating 127:20 131:2 142:13 extrapolation 130:12 extremely 126:9 eyepiece 96:10 99:1 <hr/> F <hr/> facilities 28:21 fact 15:16 16:13 23:8,23 42:17 54:22 58:24 59:13 60:2 62:21 64:1 66:20 67:2,16 75:18 76:19 80:23 82:21 86:16 87:16 99:13 100:21 101:1,18 104:22 114:23 126:1 133:5,16 133:21 142:10 145:19,21 148:16 160:11 209:9 factor 153:23 156:4,12,19,24 157:1 208:15	factors 48:11 155:5,7,12,15 156:7,22,23 157:7 203:2 209:10 facts 178:10 fail 211:14 failed 146:16 fair 23:3 33:16 34:21 48:9 67:21 70:10 87:21 89:23 98:22 137:1 167:18 192:18 fairly 31:3 72:19 90:8 fallopian 55:7 57:12 58:1 89:11 family 48:19 49:1 50:18 155:8 204:20 205:3,7,18,20 205:21,23 far 41:4 55:1 65:12 83:22 110:18,20 140:17 142:4 164:21 180:23 190:21 faster 117:8 fat 89:14 fault 144:3 fda 149:10,15,23 150:3,5 fdas 151:13 feature 52:11 features 93:12 93:14,17 94:24 181:18,20 183:15 feces 62:18,19 63:2 fedulov 177:6 feel 180:12,17 203:20
---	---	---	--	---

fell 115:12	123:13	193:16 195:11	five 14:22 36:23	63:6 95:5
fellows 140:2	fifth 17:9	195:18,24	37:19 38:3,16	130:9 135:3
felt 80:1	figure 72:14	197:23 202:9	38:24 138:3,19	142:6 145:24
ferguson 3:2 4:4	80:14,23 81:4	206:16	139:20	146:20 149:17
4:6,8 6:7 7:16	81:8 92:2	findable 191:10	focus 15:22 28:3	155:20 156:13
9:2,20 10:9,22	93:24 95:17	finding 56:21	28:24 30:3,10	157:11,18
11:9 12:9,18	97:18,19,21	61:12 65:12	30:22 72:17	187:6 197:21
14:12 18:23	99:3,4,8,13	70:12 78:21	90:16 97:23	205:9 206:1,21
19:16 21:2,14	101:21 117:9	86:21 87:9	99:15 135:24	207:5,17
23:2 25:5,10	117:17,19,20	118:19 126:12	169:1 204:11	208:16 213:5
25:14 27:11	123:16,19	130:17 132:17	204:11,15	formal 172:8,11
36:12 37:5,7	181:12,12	132:22 133:6	focused 65:19	172:17 180:7
38:21 67:12	182:1,5,10	134:8 146:3	focuses 27:4,6	forming 171:21
69:7 78:9,11	183:9 184:3,7	150:12 151:7	27:16 28:7,17	forms 8:11
78:15 130:21	184:8,20,21	175:3 178:7	29:4 135:21	formula 199:24
131:11 132:4	185:1,6,14,18	190:4 193:12	focusing 29:9	200:3
135:5 143:6	185:21,23,24	193:14,24	follow 13:7	forth 189:9,11
146:7,22	186:3,3 199:20	194:1,10	follows 6:5	forward 13:18
149:20 152:6,9	201:19	204:15	followup 168:5	found 16:10,14
152:12 154:7	filed 149:10	findings 10:21	174:1 176:1,2	22:13 23:22
156:1,15	filled 189:10	24:1,14 43:18	176:4,15 178:7	24:1,17,18
157:13,20	filter 45:14	51:13 75:19	food 63:14 161:7	50:11 53:10,11
158:5,10,13	filtered 113:5,13	85:23 126:22	foods 166:8	54:3 59:12
163:10 166:17	114:16	190:23 191:19	footnote 70:5,6	62:2,11 63:10
166:22 167:18	filtering 113:16	191:19	foregoing 213:3	65:24 66:6
198:12,13	113:17	finds 62:16	foreign 24:18	70:1 71:15
203:17 204:1,6	final 40:5 88:10	fine 12:22 37:5	29:16,20 34:7	75:10,15,21
205:9,14 206:1	88:16 115:7	46:17 103:3	59:1 60:13	76:1,11,14,23
206:8,21 207:5	finalize 139:19	133:4	88:22 97:11	81:1 85:22
207:17 208:2	financially	finish 79:8	99:13,14	86:10 103:4
208:16,21,23	210:15	194:17 197:2	101:15 102:3	108:8 118:19
209:13	find 29:8,11	finished 79:9	108:5,6,17,21	118:23 119:4
fertilizers 162:6	30:9 51:21	150:1 167:19	109:12 120:2,6	128:6 130:14
fiber 126:13	59:16 60:1	196:24	120:9,17 121:3	130:15 132:12
128:7,11 130:8	61:16,17 62:18	firm 2:4 19:1,11	121:5,22 125:2	143:13,18
130:16 131:5,7	62:24 68:11	19:12	125:19 129:12	144:13,19,19
fibers 45:7,16	83:2,6 87:6	first 6:4 69:15	133:6 160:12	160:11 163:17
96:24 126:11	90:8 108:11	69:18 70:21	160:15 164:8,9	165:2 166:8
126:15,18	109:8,9 115:4	72:22 77:6	164:21 173:17	174:3,16,22
127:10 142:13	116:22 118:15	78:19 85:14	173:22,23	175:9,11 176:2
142:14 194:14	118:18 120:13	88:4,9 93:11	174:2,15,19	176:13 178:8
194:20,22	131:9 133:17	110:20 143:17	204:16	193:19 207:3
fibrin 100:2,24	133:21 135:14	144:9 154:21	forget 15:2	four 12:20 13:4
field 68:6 93:13	146:16 164:20	159:16 168:7	50:24	14:2 35:9
93:16 95:24	173:23 174:8	175:10 181:15	form 36:10	fourth 88:8
98:20 116:2	175:17 183:7	185:17,18	38:18 45:8	fraction 129:24

frame 206:16 frazier 21:5 free 112:23 frequency 159:5 frequent 32:14 frequently 47:20 52:2 62:24 fresh 105:19 freshly 113:21 front 35:7,17 181:9 full 6:8 28:11 77:6 78:19 143:17 144:9 fully 16:13 fun 121:1 function 20:7 funding 79:18 79:21 80:1 further 19:24 23:23 65:17 159:6,13 167:11 188:12 209:20 210:11 future 205:23 209:8	generating 39:2 genes 157:6 206:6 genetic 205:6,15 205:22 206:4,6 209:9,16 genital 5:10 69:5 69:18 71:24 75:16 207:3 genitals 153:2,6 geographically 85:17 getting 109:12 179:9 199:12 gi 62:11 63:5 give 20:17 37:2 43:17 51:3 84:4 101:22 102:11 106:8 108:12 143:22 180:16 199:13 206:16 given 6:23 14:21 43:6 46:5 210:11 213:4 gives 81:14 82:23,23 giving 82:11 147:11 glass 103:14 128:1,1 gleaned 171:4 globules 184:6 gloves 112:24 glue 103:7 go 7:14,15 8:17 25:16 29:15 30:14 34:5 41:4 57:19,24 61:5 62:7,19 62:23 63:1 84:5,7,9 86:7 92:1 97:20 105:10 107:7 108:15 111:17 112:20 119:2	121:19 126:21 128:24 130:7 131:11 136:19 139:5,5,9,20 142:10 151:1 156:2 166:18 172:3 184:23 186:17 190:10 193:10 194:18 200:12,22 202:5 207:14 godleski 1:15 4:3 5:1 6:3,10 8:23 9:15 10:2 10:12 11:5 12:11 14:9 18:20 19:13 20:23,24 21:10 22:22 25:1 26:1 27:7 37:8 65:2 67:13 68:20 69:1 84:17 136:19 139:5,12 143:1 152:1 154:2 157:8 167:23 169:15 185:10 188:1 198:14 213:8 godleskis 4:14 4:16 5:7 8:24 10:3 27:8,16 166:24 goes 63:4 69:24 119:7 136:18 136:21 139:7 180:23 going 12:9 13:17 17:1 30:9 39:13 52:19 54:10 58:9,18 63:8 67:5 79:12 80:6 82:13 83:1,2,4 83:6,9,10 85:6 88:3 93:18,19	96:24 99:1 102:11 110:1 112:4 117:1 119:13 126:5 129:15 133:19 143:24 166:17 167:4,23 171:8 172:3 174:13 182:24 183:7 193:8 194:15 194:20 198:9 202:9 gold 101:23,24 114:18 115:5 115:14 good 79:21 102:13 177:8 182:23 183:6 184:12 gordon 3:3 gordonrees 3:7 gotten 37:23 170:17 governmental 146:17 151:20 165:13 grade 150:1 graduate 26:20 gram 126:15,18 130:19 195:1 196:9,13,15 grams 194:7 grandmother 50:5 grant 79:23 140:15,16,24 granulomas 109:1,10 145:7 145:10 granulomatosis 15:18 granulomatous 108:19,20 graph 82:18 great 46:11 63:4 192:7	group 147:15 148:2 154:17 groups 48:17 147:18 guess 9:12 15:1 41:10 43:6 87:13 95:14 126:17 132:15 136:8 144:22 164:9 202:21 guessing 170:5 gum 161:9 gun 116:2,3 gut 62:4 guy 109:7 guys 114:1 gynecologic 31:16,19,21 32:3,7,12 34:14,17 48:5 51:12 67:18 164:22
<hr/> G <hr/>				<hr/> H <hr/>
g 6:1 gadolinium 110:13 gene 48:16 general 16:3 17:12 77:10,18 110:14 193:22 199:9 202:21 generally 28:3 32:13 37:11 39:18 41:1 44:21 45:22 46:2 47:24 48:2 75:1 90:4 110:24 157:10 176:24 generated 39:5 43:23				h 4:12 hadnt 23:8 54:11,14 hahern 2:23 half 7:9 44:6,24 129:5,16 halfway 143:17 hand 34:9 36:2 106:7 210:18 handing 13:15 152:11 154:11 handle 46:6 105:11 197:6 handled 20:16 60:7 106:3 112:15 114:5 handling 112:23 hands 106:2,2 happen 41:10 60:4 97:9 115:4 178:24 179:2

happens 52:2 61:2 79:11 139:3 hard 29:23 117:15 146:4 163:21 harder 144:5 hardy 2:18 harvard 1:20 6:17,18,20 28:20 29:13 30:8,21 32:16 111:14 140:3 140:13 142:5 hasnt 197:10 havent 39:4,5 47:14 49:4,24 54:13 56:13 79:20 108:8 156:17,21 167:3 169:20 170:18,19 171:9 174:14 178:5 180:20 180:22 191:4 heading 123:22 health 1:20 4:18 5:7 6:18,21 10:10,14 26:6 26:11,14 27:9 27:15 28:6,24 30:9 89:21 110:3 hear 151:17 heard 84:12 149:13 188:3 held 1:19 178:18 178:23 hell 62:17 heller 74:22 75:1,4,14 76:20 77:4 165:7,8 help 122:23 helps 93:19 henderson 5:11	142:21 143:2 164:24 165:8 heres 19:7,9 123:11 124:2 124:13 152:10 201:13 hereto 210:15 hereunto 210:17 hes 109:4,12 145:22 167:6 189:1,4,7,8 191:17,18 hess 64:19 85:13 157:19,24 158:4,4 160:1 hesss 85:20 high 111:10,10 195:9 higher 75:20 highest 188:14 hip 59:24 hips 59:15 hired 34:19 36:5 histologic 128:15 192:4 198:5 histology 90:3 histopathologi... 89:4 historical 102:12 history 48:19 49:1 50:18 155:8 205:8,19 205:20,21 hitachi 116:1 hits 128:12 129:12 hmm 166:14 hold 103:5 172:24 173:3 180:8 holden 16:1 holds 105:21 hood 114:1,2,4,5 hospital 5:17	6:17 10:7 16:13 29:15 33:19,21 48:5 49:20 90:1 91:22 107:9,10 107:15 108:4 109:18 111:21 153:16,19 154:5,14 155:18 156:11 156:18 hospitalprepa... 90:10,15 hospitals 88:22 90:4 107:14 109:16 houghton 203:6 hour 35:5 67:5 137:10,17 138:1,1,4,21 hours 13:22 14:1,2 35:9 38:2 90:18 118:15,17 136:23 137:4,4 137:5,10,16 138:9,12,19,19 138:19,19,20 139:20 house 16:7,11,19 16:20 houses 16:11 houston 2:21 human 174:20 177:14 178:4 humans 147:16 148:4,7,12,14 149:2 151:11 hundreds 196:14 hundredth 195:22 hunter 2:17 huntington 1:20 6:13,20 husband 207:11	hydrous 74:13 hygiene 69:18 hyperchromatic 94:13 hypothesis 146:9 153:5 hypothetical 146:1,5 <hr/> I <hr/> iarc 146:21,23 147:14 148:1 149:1,5 151:9 178:2 iars 177:13,20 idea 53:24 56:17 182:9,21 195:16 identifiable 196:4 identification 9:1,18 10:5,15 11:8 12:13 14:11 18:22 19:15 21:1,13 23:1 25:4 27:10 69:6 122:11 143:5 152:5 154:6 identified 6:4 8:19 36:21 37:2 40:3 53:16 66:14 80:15 93:22 121:3 122:9 124:19 125:3 125:11 167:2 170:7 187:1 191:2 identify 29:16 34:9 108:16 109:3 120:15 122:15 123:19 173:21 176:6 identifying 29:20 65:23	110:15 115:8 148:24 198:23 ill 7:23 8:4 9:13 31:2 41:2 53:8 68:21 83:12 151:20 167:16 205:1 illustrate 98:10 im 6:16 8:2 12:9 25:22 26:16 27:12 29:15,24 30:9,12,14 32:17 33:1 39:5,13 40:8 43:15,16 47:7 48:5,15 50:24 51:8 52:22 53:7 55:9 57:19 65:19 66:11 70:13 78:5,12 80:5 80:18 83:10,12 84:15 85:6 87:13 88:3 90:19 93:18,19 96:2 97:17 98:8 102:11 106:18 118:6 119:8,13 125:10 126:4 130:10 132:9 134:19 135:6 136:5,23 137:20 138:15 140:13 142:2,3 143:24 144:24 163:20 164:9 165:2 166:12 166:17 167:19 167:23 168:3 172:3 174:13 174:22 184:18 185:9 186:10 187:11 188:8 191:14 193:8 197:22 198:7,9
---	--	---	---	---

199:8,20 200:7 200:10,11 201:19,24 202:9,21 image 116:12 117:4 183:9 images 116:11 185:13 imbedded 110:8 206:17 imerys 3:1 7:17 7:20 immunologic 68:8 immunologist 68:2 immunology 68:5,6,10 impact 127:19 imperative 211:11 implants 60:11 imply 137:21 important 58:11 65:20 102:23 128:13 187:18 193:14 importantly 61:9 impressed 58:19 impurities 113:6 inadequate 148:6,13 150:13 inbetween 188:16 include 11:18 12:20 13:9 25:6 28:16 34:18 93:2 168:15 199:17 included 10:17 11:22 13:23 24:9 86:4 89:9 118:7,11 179:10	includes 14:14 22:17 23:4 25:8 73:1 168:11 199:11 including 34:24 87:23 124:10 155:7 161:7,11 166:24 inclusion 191:6 191:9 inconsistent 27:13 150:22 152:24 incorrect 145:22 incourt 14:15 15:3 16:2 17:6 increase 70:2,12 71:14 159:4 increased 150:15 increases 48:21 153:2,7 index 4:1 indicate 27:23 30:21 53:10 63:10 65:23 66:5 69:16 72:8 91:1 112:4 126:14 193:21 195:9 205:22 206:19 indicated 41:22 50:4 60:22 66:8 89:9 102:1 117:24 145:15 156:16 indicates 77:23 164:20 194:2 indicating 19:18 74:7 93:17 94:21 98:7 indications 127:2 indicative 90:21 120:2,6 126:16 indirect 141:5	individual 91:9 139:12 140:4 205:5 207:11 individuals 59:5 indoor 162:16 162:19,23 inert 175:6 177:1 inflammation 145:6,10 inflammatory 175:7 177:7,12 influence 203:13 influenced 177:15 information 4:21 12:10,12 12:21 23:13 28:16 29:23 34:22 41:13 50:2,3 54:7 61:22 83:24 84:1,9 141:16 166:24 167:1,5 167:12 168:11 171:2 177:18 187:9,21 189:13,17 191:16 203:19 informed 49:19 ingest 63:14 163:15 ingestion 61:24 62:3 63:9 66:21 67:1 122:2 inhalation 28:1 28:2 29:11 46:22 59:10 64:12 66:21 67:1 121:15,24 inhaled 27:5,17 28:8,18,24 29:6 59:8 60:23 61:4 163:1,3	initially 22:10 initiated 15:10 input 77:21 inquiring 141:14 inside 22:7 164:18 insignificant 175:8 insoluble 63:1,7 instance 53:1 108:18 130:13 130:18 165:5 196:7 instances 58:4 138:14 201:23 institute 150:12 150:20 151:6 institution 155:18 156:11 institutions 26:23 64:22 instructions 211:1 instrument 111:10,11 115:19,22 116:5 instrumentation 112:3 insufficient 150:7 152:24 insulted 175:19 intend 179:14 179:21 intending 40:9 intent 56:15 interact 209:12 interaction 188:18 intercourse 65:18 207:13 interest 80:2 90:20 172:15 190:6,9 interested	200:18 210:15 interestingly 157:5 interim 190:23 international 84:13 146:18 interrelated 26:23 interrupt 57:20 97:17 145:2 interrupting 98:11 invent 27:12 investigation 159:2 investigators 75:14 invoice 13:12 38:8 39:1 136:7 invoiced 13:12 involve 26:22 64:12 involved 43:1 44:22 45:21 46:1,8 51:17 55:21 109:4 involving 35:23 iphone 74:2 iron 45:8,17 73:8,12,13 124:11 201:13 isnt 61:21 90:8 115:5 176:18 issue 16:3,4 17:12,20 33:23 34:3 44:14 53:8 56:9 65:15 135:2 160:2 issues 15:10,23 item 17:9 items 139:8 ive 13:3 29:17 29:17,18 37:21 47:13 51:3
---	--	---	--	--

55:6,8 58:19 60:12 68:6,9 85:2,12 106:15 118:2 132:8 133:2 134:3,4 137:5 143:8 162:10 170:9 170:18 171:13 171:14 172:13 176:22 199:19 204:4	124:5 130:11 140:15,16 163:21 164:17 172:14 kinds 60:4 109:14,17 130:15 kit 91:12 kitty 166:13,15 knew 52:5 57:9 know 7:13 8:4 8:18 17:24 36:20 45:5 47:15 49:16,18 51:4 53:21 54:2,7 55:2,19 57:17 58:5,6 62:6 65:6,9,10 65:21 66:2 68:14 83:1,10 89:23 91:3 108:6 110:18 110:20 113:9 113:12 115:6 115:12 118:16 118:17 119:23 125:21 129:21 132:8 138:2 141:12 144:3 146:4 147:13 149:18 150:9 153:22,24 157:24 158:11 158:14 161:15 161:16,19,23 162:3,5,7,9 163:4 165:23 167:4,8 168:6 168:11 169:13 170:2,6,15,17 172:2 174:7,21 174:24 175:2 175:16 176:12 178:19 179:3,5 181:19 185:9 190:5,13,21	192:2,7 200:24 201:18 209:4,9 209:11 knowledge 46:21 48:10,24 55:22 87:4 112:12 130:23 132:22 133:10 133:13,14 134:21,23 135:11,12 171:20,23 176:18 195:13 198:7 210:8 known 29:15 48:18 61:21 125:6 154:23 157:7 178:6 kramers 64:13 64:15 kreyling 62:14	large 25:22 61:10 101:23 122:12 123:15 197:7 larger 93:6 123:4 latest 111:16 law 2:4 19:1,11 19:12 lawyer 20:17 105:24 lawyers 20:21 28:14 214:1 lay 60:19 lead 70:8 134:2 leads 134:10 learned 102:18 209:8 leaves 40:13 leaving 136:13 left 45:13 49:18 79:7,9 89:10 195:2 lefthand 152:13 legs 67:7 length 61:20 131:6 lens 99:1 lesional 87:6 letter 4:23 5:1 18:21 19:9 20:24 21:3,4 letterhead 19:1 level 134:21 155:23 182:23 189:24 193:21 levels 40:19 182:24 183:7 195:4,9 lift 103:1 light 23:22 24:8 37:21,24 39:8 40:15 41:14 45:15,18 52:8 91:2,4,5,5,17 91:23 95:23	96:15,16,18,20 96:21,22 97:1 97:4,6,8,13,13 97:24 98:1 101:10,16 102:4 116:23 116:24 119:9 163:19 164:5 164:12,13 182:6 185:5 193:19 195:11 likelihood 78:21 limited 28:13 148:3,12 162:23 167:5 line 88:8 179:9 197:3 212:3 214:2 lined 96:24 lines 144:10 link 50:11 86:11 86:17 87:10,11 87:16 132:13 132:19 135:10 208:11 linking 178:15 178:16 links 132:23 list 4:22 14:6,10 31:3,15 147:2 153:22 156:7 156:12 157:5,6 listed 31:6 36:20 37:10 41:24 42:3 147:7,8,9 148:23 155:6 155:11 174:11 listen 163:6 listing 156:6 lists 146:21 156:23 literally 29:19 literature 84:22 85:4,7 134:9 134:20 135:9 135:13 136:1
J j 1:15 3:2 4:3 6:3 213:8 january 137:9 202:24 job 108:24,24 109:3,5,7,13 john 1:15 4:3 6:3,10 102:18 213:8 johnson 1:9,9 2:16,16 7:17 7:18 17:6,7 joint 60:2 joints 59:15 jpmorgan 2:19 june 210:18		L lab 12:15 26:18 28:21 43:8 45:19 79:17 105:4,11 107:19 111:7 111:13 136:21 139:6,7,7,9,21 140:9,9,23 141:2,6,10,22 142:6 177:6 labeled 23:13 72:22 89:9 154:18 laboratories 90:4 141:24 laboratory 43:24 89:24 90:24 101:3 103:4 105:10 112:17 197:19 laid 99:16 123:3 language 8:10 60:19		
K k 2:17 kathleen 21:5 keep 90:5 104:13 keeping 104:18 ken 7:16 kenneth 3:2 kept 111:18 kferguson 3:7 kind 36:2 40:3 61:22 88:3 91:11,21 94:1 94:9 95:6 100:3 105:2 109:2 114:2				

145:15,16 146:2 171:12 180:15 litigated 142:7 litigation 32:19 32:20,23 42:1 42:10,16 43:4 55:15,16,22 56:3 107:8,24 109:23 190:7 litigations 42:11 42:12 43:5 litter 166:13,15 little 7:5 8:18 10:20 11:11 13:7 21:15 47:22 53:8 69:8 72:13,20 80:18 81:7,12 96:22 97:6 100:7,11 108:13,14 117:8 125:9 129:15 136:5 144:5 162:16 175:19 184:4 184:19 202:13 lived 61:7 liver 51:19 62:20,21,22,24 llc 2:11 llp 2:18 3:3 local 79:23 localized 143:13 143:19 144:14 144:19 locally 60:7 located 99:4 198:16 location 16:11 25:9 99:3 locations 58:2 92:20 184:10 lockwood 2:12 long 17:15 53:21 60:14 128:11	204:7 206:13 206:13 longer 19:20 longest 106:15 longterm 5:10 69:5 look 13:14 24:19 28:11,19,20 29:23 30:6 32:11 41:2,3 49:9,12,17 61:6 67:18 68:12,15 70:5 72:7 73:2,6,16 73:17 75:18 80:4,8,9 81:12 81:22 82:8,17 82:18 83:3 84:5 91:7 92:16,22 93:5 93:13 97:21,23 99:24 106:12 109:8 113:13 113:14 119:12 119:15 120:22 135:20 137:23 143:10 144:23 146:2 167:3,10 173:20 185:3 189:24 191:2 192:4 200:13 201:5 202:5 203:19 looked 11:15 29:17,17,18 30:3 31:2 39:12 40:20 49:24 52:5 55:19,20 129:24 153:18 153:24 160:13 162:14 165:1,5 167:8 176:19 190:14 191:24 196:1 205:20 looking 20:12	28:2,5 29:24 32:17 33:1 51:8 55:13,14 56:2,20,22 57:21 59:14,15 67:23 73:21 83:16 85:24 89:2 91:10 92:4 96:2 97:3 99:23 116:21 117:9,12,16,17 118:21 119:16 128:1,8,23 129:3,9,12 130:20 136:6 136:22 137:3,6 137:7 138:15 139:24 154:12 154:16 156:23 163:22 170:3 181:16,17 183:11 184:1 184:14,24 185:7 187:12 187:16,21 191:4 194:13 195:17 196:12 196:14 200:18 205:18 looks 9:7 14:13 14:15 73:22 94:1 108:21 138:18 184:9 184:12 186:2 los 85:16,22 lose 201:9 loss 111:9,16 lot 32:17 39:21 40:24 43:20 52:3,13 59:1 61:8 62:18 63:19 68:7 84:3 90:16 93:12 103:1 108:20 114:4 114:23 117:6	119:20 121:8 121:10 123:12 124:9,11 141:23 161:18 163:5 168:7,24 172:13 175:14 178:17 184:5 186:1 190:3 202:23 loud 8:9 louis 2:13 low 144:3 lower 104:17 lowest 188:14 lubricated 207:14 lunch 132:5 136:4 142:9 luncheon 131:14 lung 15:7 17:13 17:14,20 27:20 33:23 43:10 45:10,13 47:1 47:2 52:23 61:4,4,7,9,11 62:6,10,17,23 88:11 128:2 163:3 193:13 lymph 5:9 57:12 61:6,10,15,16 62:7 69:3 78:22 108:19 lymphatic 58:17 59:19 92:20,24 117:14 183:17 lymphatics 55:5 58:12,16,21 61:5 lymphogenic 58:14	131:15 132:2 166:21,21 209:23 213:8 machine 114:9 macrophage 60:6 68:7,17 163:18,24 164:4 macrophages 60:6 68:8 163:11 magnesium 12:3 72:9,24 73:2 73:18,23 74:13 80:16 81:8,16 81:23 82:3 83:17 84:2 122:9 123:10 123:23,23 124:3,8,15 125:12 166:3,4 166:6 200:15 200:23 202:7 magnification 96:7 186:15 mail 20:16 main 64:6 maintained 16:6 103:2 major 62:7 making 41:5 50:17 57:19 129:18 mal 47:12 malpractice 17:18,19 47:4 47:5,7,16 manage 102:23 management 109:23 manner 78:21 mansukhani 3:3 manufacturers 65:3 mark 9:13 12:9 21:3,8 68:21
--	---	---	---	---

marked 9:1,3,17 10:4,10,14 11:3,8 12:13 14:10 18:21 19:14 21:1,12 22:24 24:22 25:3 27:9 31:4 35:1 69:6 73:21 143:4 152:5 154:5 marker 59:20 marketed 149:24 marking 9:24 marriage 65:7 65:22 marys 4:18 10:10,13 26:6 89:5,21 110:3 112:9 mass 93:6 130:1 130:4 massachusetts 1:21 6:14 210:1,5 match 186:5 material 23:22 24:18 34:7 53:19 58:9,24 59:1,20,24 60:13 61:8 62:23 63:3 72:20 73:10 88:23 90:12,16 94:10 96:23 97:24,24 98:1 98:5 99:12,13 99:14 100:3 101:6,16 102:3 108:6,9,13,17 108:21 109:3 109:12,16 110:15 117:1 119:3 120:3,6 121:3,5 123:10 129:12 133:6	133:21 135:14 150:1 164:8,9 164:21 173:17 173:22,24 175:6 204:16 materials 10:16 11:23 13:19 25:18 29:16,20 59:22 60:13 61:3,4 63:19 110:8 120:21 121:2,10,12,22 125:3 165:4 174:3 188:20 190:11 maternal 49:21 50:5 math 74:1 138:20 matter 9:22 67:23 112:14 205:8 matters 79:5 maureen 1:24 210:3,21 mccrone 84:8 202:1,3 mean 33:5 57:20 57:22 81:20 91:4 99:16 110:18 120:5 120:12 132:16 133:8,23 158:3 158:4 168:10 175:4 179:20 meaning 126:23 195:12,18 means 27:20 29:5,10 40:5 45:4 79:14 98:24 116:8 121:14,24 158:6 measurable 186:14 measure 186:16	measurement 96:5 186:17 measurements 28:1 186:7,11 186:19,20,20 186:22 med 47:11 medical 17:18 17:19 26:7 47:4,5,6,16 49:5,9,13 50:1 86:9 111:24 112:1 132:12 132:21 157:10 157:15 160:3 165:19 medicals 50:22 medicines 63:15 meet 191:3,12 meets 192:5 melted 105:8 members 204:20 205:3,23 menses 58:7 mention 28:6 29:3 30:2,10 53:3 202:3 mentioned 57:8 111:4 116:7 158:18 174:16 174:18 177:13 185:18 188:1 188:24 189:23 205:2 mercy 49:20 89:21 mere 133:5,21 mesh 15:4,10 42:17,22 43:2 mesothelioma 43:11,24 195:6 mess 24:3 metaanalysis 169:17 metal 59:24 metals 109:4	metastudies 168:18 method 194:19 196:2 207:15 methodologies 173:7 methodology 110:15 methods 197:5 michael 1:6 microgram 194:7 micrograms 130:20 micrograph 95:18 micrometers 129:5 micron 187:13 187:16 microns 129:16 186:13 187:15 microscope 5:3 5:4 20:7,9,10 20:11 21:12 22:3,19,24 52:6 91:5,7,10 91:11 92:23 95:23 96:4,21 98:24 103:19 103:21,24 104:6,7,10 105:4,22 106:6 106:9,11 107:12,16,17 107:19 108:2 111:8 114:24 115:11 116:10 116:20,24 118:3 119:9,11 129:17 138:16 microscopes 111:16 microscopic 45:18 185:6 microscopists	111:1 microscopy 5:6 20:2 24:8 25:3 26:18 28:22 37:20 39:8 40:16 41:14 45:15 52:8 75:8 88:24 91:2,4,17,23 95:21 96:15,19 96:20 101:10 102:4 104:5,23 111:9,15,20 116:12 136:24 141:15 164:5 164:12 191:3 193:20 195:11 microtome 105:14 114:10 114:12 migrate 75:5 migrating 63:24 migration 60:11 milligram 130:19 millions 60:4 196:3 mind 13:6 22:4 168:12 181:21 mine 62:13 177:6 mineral 45:13 165:24 166:2 177:23 195:3 mineralogist 175:18 minerals 161:1 190:1 minuscule 128:20 minute 19:5 82:5 minutes 66:13 67:6 126:6 misinterpret 168:4
---	--	--	--	---

misreading 87:12 missing 87:13 mississippi 2:6 missouri 1:2 2:13 misunderstan... 200:11 mmhmm 42:19 71:4 80:17 81:6,17 138:24 147:22 149:6 200:16 mode 116:8 117:3 model 116:5 modes 116:9 molecular 82:10 moment 20:4 money 139:5 141:1,6,11,22 142:6 monograph 147:14 149:5 month 140:7 141:13 months 170:17 morphological 183:15,22 morphology 181:16,17 mount 123:4 mounts 20:2 movants 150:8 move 41:12 42:10 53:8 96:15 moved 60:16 65:17 110:22 110:23 197:1 moving 78:12 mucociliary 62:8,10 multiple 146:3 mutation 205:6 mutations 209:1	209:4,9,12,16 myomas 89:12 myth 153:7 myths 5:13 152:2,17 <hr/> N <hr/> n 6:1 101:17 118:8,13 184:2 185:22 name 6:8 7:16 25:9 46:12 85:14 named 140:4 names 37:3 nanoparticles 113:19 narrate 184:19 national 150:11 150:20 151:6 nature 184:5,11 neatly 40:24 necessarily 26:21 44:19 63:5 130:6 137:7 157:1,2 163:24 191:20 necessary 49:14 78:20 211:4 necrosis 95:4 need 9:14 41:13 46:10,14 51:8 104:15 108:11 111:19 126:2 133:4 203:20 needed 159:7,18 needing 112:1 negative 176:21 205:7 neither 210:12 ness 158:3,4,6 158:15 160:1,2 nesss 170:11 nest 92:10 never 16:9 22:13 33:9 153:24	203:10 new 20:5 103:10 103:10,17 105:14,20 106:15 116:6 newer 116:4 nextdoor 177:6 nodding 44:9 node 108:19 nodes 5:9 57:13 61:6,10,15,17 62:7 69:3 78:22 nonlitigation 190:19 nontalc 174:2 188:15 normal 89:24 90:9 normally 61:19 174:20 normative 199:19 201:21 notary 210:4,21 213:19 note 49:20 114:16 noted 168:5 187:7 213:6 notes 198:10 214:1 notice 4:15 9:11 9:16 25:19 noticed 144:1 nuance 87:13 nuclei 93:6 97:23 nucleus 97:22 number 8:23 9:15 10:2,12 11:5 12:11 14:9,20 18:20 19:13 20:23 21:10 22:22 23:16 25:1,22 27:7 37:18	38:1 46:11,11 51:1 59:4,14 64:19,21 65:4 69:1 84:18 104:22 118:15 120:14,15 125:8 137:24 143:1 152:1 154:2 168:19 169:1 178:21 194:3,5,9,14 194:19,22 195:5 197:7,16 numbers 60:3 75:19 83:5 131:9 194:10 numerically 199:9 nurse 155:22 <hr/> O <hr/> o 6:1 101:17 118:8 oberdoerster 177:10 object 36:10 38:18 130:9 135:3 145:24 146:20 149:17 155:20 156:13 157:11,18 175:21 187:6 193:8 197:21 204:6 205:9 206:1,21 207:5 207:17 208:16 objection 178:10 196:19 205:10 205:14 206:8,9 206:22 207:18 208:2,17 objective 95:24 96:9 98:24 193:11 objectives 96:10 191:21	observed 163:22 164:13 186:8 186:12 188:5 observing 58:13 obtain 83:24 201:20 obtained 89:5 102:6 obtaining 40:11 obviously 7:13 27:20 28:13 31:24 38:24 52:18 125:20 127:7 occasion 67:17 occasions 7:2 occupational 193:17 oclock 132:2 210:6 oconnor 1:24 210:3,21 offer 179:14,21 offering 180:12 offhand 68:14 office 18:18 20:18,22 41:1 officially 165:15 oh 184:13 189:19 oil 16:1,5,6,7 ointments 161:12 okay 7:22 8:6,7 8:21 9:19 12:19 13:21 14:3 15:9 18:7 18:9 19:7 21:17,22 24:2 24:6 26:10 28:13 30:6,16 32:15 37:8 38:11,14 39:13 42:3,16 45:4 47:3 50:23 53:18 54:13
--	--	---	---	--

55:1 57:16 65:1 66:17,18 67:8,9 68:11 68:17 69:10 71:2,17 74:5 77:3 80:4,13 80:22 82:6,15 83:8 84:4,17 93:18 94:8 97:20 98:21,22 99:7,11 100:10 101:12 102:11 106:14,20 110:1 114:15 116:9 117:12 119:13 121:18 124:1,2 126:3 126:4,7 127:22 134:3 137:1 139:11 142:18 143:9,15 144:5 144:8,12 145:1 146:8 149:21 151:17 159:22 160:7,24 162:13 169:4 169:10,15 172:11,17 174:13 181:24 182:5 185:1,16 187:24 188:23 189:21 191:14 192:18 195:10 196:5,17 197:9 198:12,18 199:7 209:13 209:20 old 191:16 oleary 2:11 omentum 51:18 89:13 once 32:12 41:12 82:19 102:6 115:2 141:13 167:10 onder 2:11	onderlaw 2:15 ones 47:9 68:14 85:9 98:4 100:12,16 101:14 169:13 178:24 online 30:14 open 21:18 58:5 58:8 opened 170:15 openings 122:6 opinion 14:8 34:21,22 42:14 53:10 65:12,13 86:15,20 87:15 87:17 88:10,16 88:21 132:16 145:13,22 146:10 147:11 148:20 151:8 151:10 157:9 171:21 179:15 180:13,16 181:3 207:1,21 opinions 7:24 86:2 171:18 179:11,21 opposed 75:22 90:23 oral 4:15 9:16 order 40:11 42:13 73:15 90:18 107:3,12 129:6 135:9 141:18,21 182:13 197:5 org 2:8 organic 45:12 organization 6:17 84:12 151:21 153:12 165:14,19 177:3 organized 40:24 original 60:21 179:9 211:12	originally 198:2 os 58:7 ought 119:15 ourself 105:11 outgrow 95:4 outlines 28:11 outside 42:10 109:16 121:7 121:11,13 162:16 outstanding 79:24 ovarian 5:9,16 30:4,11,22 31:9 33:10 35:24 36:6 47:21,24 48:2 48:8,11,20,21 49:11 50:13 52:16 58:15 64:10 66:4 67:19 69:4,18 70:2,12 76:21 77:1,9,14,17 78:22 81:2 84:20 86:13,18 88:17 92:8 94:5,6 95:9 125:5 132:15 145:17,20,21 146:10 149:12 150:6,15 151:14 153:3 153:19,23 154:3,22,23 155:5,7,12,15 156:4,7 157:2 157:3,9,17 158:16,23 159:4,15 160:5 165:16,20 168:23 169:7 169:18 170:4 171:4 173:17 174:3,9 175:3 175:10,12,16	176:3,14 178:8 179:7,17 180:4 180:16 182:2,3 183:11 188:5 189:6 190:15 193:5,7 195:21 196:23 197:17 203:2,7,13 205:21 207:4 208:11 209:8 209:17 ovaries 51:16 53:11 60:24 64:3 75:15 76:16,24 89:10 165:2 207:22 ovary 5:12 34:4 49:18 67:24 94:24 129:22 132:17,23 142:22 143:3 165:5 182:4 194:5,6 195:20 overhanging 16:8 overlap 56:6 oversee 137:20 overseeing 137:6 overwhelming 124:5 owing 136:17 oxford 115:18 115:24 116:3 oxygen 72:24 73:1 80:16 81:15 82:22 125:12	70:6 72:7,7,8 74:13,22 77:6 78:17 80:9,9 80:14 89:3 92:1 118:4,21 123:20 124:17 124:18 140:1 143:10,16 144:7 154:16 154:18 158:8 185:11,17,21 212:3 214:2 pages 4:21 12:12 12:20 154:9 213:4 paid 35:3,15 136:17 139:16 140:9,11,23 141:6 paint 161:18 paints 161:17 palpitation 59:6 paper 56:9,16 60:9 69:11 74:22 75:4,14 102:14 110:11 127:13 158:17 158:19 159:10 161:14,15,16 177:5 papers 64:18,19 64:21 68:4,7 157:23 171:22 177:5 papillary 93:2,9 184:15 paraffin 20:8,10 22:2 103:23 104:9 105:8,23 110:8,16 paragraph 50:10 69:15 70:16 77:6 78:18,19 88:4 88:9 89:2 125:24 143:17
--	--	---	--	---

144:9 197:14 197:15 park 38:7 part 45:23 46:14 49:8 52:2 63:4 68:8 95:11,12 100:19 101:3 109:21 110:21 115:8 119:22 135:14 159:16 171:19 190:8 202:22 204:14 participated 137:6 particle 11:14 11:17 72:18 80:15 90:19,20 90:22 97:11,11 98:13 100:22 112:23 115:5 115:12 116:23 117:5,10,13,18 117:20,22 130:8 133:6,8 133:12,20,21 133:23 134:3,4 134:8 135:10 163:2 174:6 183:17 186:15 186:23 187:15 195:19 196:7 196:13 197:24 199:15 201:10 201:11 particles 11:18 11:19,21 27:5 27:18 28:8,17 29:1,4,10 46:22 53:9,11 53:15,21 54:3 55:20 57:9,11 57:17 59:11 60:3,5,7,16,23 61:18 62:1,6,9 62:15,17,19,22 63:10,14,23	65:13 66:22 75:10,21 76:1 76:12,12 81:1 100:8,11 117:6 118:23 119:12 119:14,16,18 120:18 121:6 122:9,16 123:6 124:20,21 125:11,20 127:20 130:14 130:17,24 135:17 143:12 143:18 144:11 144:13,18 145:4,7,11 160:12,15 163:15,16 164:3,8,13,14 164:21 167:1,3 174:16,19 175:2,14 178:8 182:10 183:6 185:2 186:8,12 186:21,23,24 187:5,12 188:19 193:4 193:24 194:1,3 196:3,15,22 197:3,6,17 206:14 particular 29:22 87:5 93:12 97:15 98:20 142:14 177:3 184:17 particulate 24:17 60:1,12 63:1,7 67:23 90:9,12,15 109:9 110:8 113:23 116:24 particulatefree 113:10 particulates 45:12 99:23	113:15,17 parties 210:13 210:15 parts 64:1 85:18 138:23 pass 167:19 path 97:9 pathologic 191:12 pathological 108:3 191:19 pathologist 15:12,19 26:13 31:24 32:4 33:3 46:24 48:6 51:11,13 67:18 88:10,15 91:22 pathologists 32:6 88:21 109:15 pathology 4:18 10:6,9,13 15:7 18:3 19:2,19 26:6,22 27:1 29:14 32:7,12 34:14,17 39:17 39:18 41:5 43:13 45:23 46:9,23 49:6 49:13,14 50:22 51:14,22 52:14 52:19 53:4 107:9,18 109:21 111:21 191:10 197:23 204:12,15 pathway 57:11 57:17,18 58:16 61:18 pathways 55:9 patient 15:16,17 46:9 55:21 86:22 87:5 101:4 107:24 108:1,5,18,22	109:24 127:3 132:24 190:11 patients 33:4,5,6 35:24 43:10,24 50:13 55:21 61:7 86:12,18 86:24 108:3 132:15 188:14 188:21 189:5,7 189:12 190:7 191:17 193:15 pattern 58:15 pay 139:10,17 140:18 payment 140:2 140:3 payments 136:12 139:11 142:7 peak 72:22 pelvic 5:9 69:3 71:24 pelvis 75:6 penetrate 129:17 penetration 129:4 pennsylvania 85:21 155:22 people 33:14 36:17 46:3 80:1 104:1 109:15 112:1 146:3 168:18 177:8 188:15 197:1,1 percent 76:9 160:16,17,18 160:24,24 195:21,22 percentage 82:12,16,24 199:3,5,8,10 199:16,17,20 200:13,13,22 201:3,12 202:6	perineal 29:18 54:6 59:1,6 64:2,11 65:16 76:17 121:17 150:14 153:22 155:11,14 156:3,8 158:22 203:6,12 perineum 55:5 61:13 period 14:23 perisplenic 89:14 peritoneal 89:11 person 29:15 33:24 34:5,10 79:6 137:7 157:15 210:6 personally 136:18 140:11 persons 60:19 perspective 15:7 55:8 62:5 68:9 pesticides 162:8 peterston 2:11 petition 151:14 petitions 149:10 149:16,19 pharmaceutical 161:11 166:11 phone 39:22,23 phosphorous 124:5,16 phosphorus 119:4 photo 95:17 photographed 96:5 phrase 27:12 physician 7:11 7:12 18:1 26:17 43:12,17 43:22 44:11 47:9,15 physicians 6:17 54:16
---	---	---	---	--

picked 79:8 picture 25:8 93:11 94:12 97:15 98:23 100:4,6,6 183:16 184:2,7 185:6,19 186:2 pictured 99:12 pictures 24:9 96:6 123:3,5,7 piece 45:9 101:23,23 128:8 pieces 108:14 pile 37:22 pink 100:2 place 24:4 29:13 59:23 84:16 119:10 149:11 202:4 placed 23:11 102:16 plaintiff 1:7 2:2 16:4 17:3,22 47:18 plaintiffs 173:16 plan 21:20 41:10 41:11,11,17 planchets 20:5 plane 90:12,16 90:20 99:15 plastic 21:15 96:23 112:5 plastics 161:20 161:21 plate 98:1 platelike 182:12 play 128:18 please 6:9 9:10 16:3 18:15 40:8 72:15 80:5 95:2 96:19 140:2 211:3,8 pleasure 145:3 pllc 2:4	plus 11:22 95:24 96:9 pluto 203:2 pneumonia 15:16 47:2 52:23 point 13:16 54:9 64:3,16 75:2 76:19 97:6 129:18,20 130:3 157:14 160:3 170:7 191:1 209:10 pointed 94:8 139:24 141:8 pointing 93:20 98:12 100:15 181:19 points 129:2 polarized 23:22 24:8 37:21,24 39:8 40:15 41:14 96:15,18 96:20 97:9 101:9,16 116:23 163:19 164:12 182:6 pollard 1:24 210:3,21 polymorphisms 209:16 poorly 51:15 93:8 population 85:19,20,21 193:22 position 107:22 134:15 positive 127:21 179:1 possession 19:21 possibility 40:22 57:23 58:8,23 67:4 possible 8:4 59:22 63:9,14	84:19 89:12 147:6,8,10 177:14 178:3 182:18 205:3 207:9 possibly 42:14 147:16 166:16 171:7 178:12 197:4 poster 190:24 potassium 123:17 potential 52:15 75:5 125:5 178:22 potentially 66:1 powder 5:14 152:3,19 153:1 153:6 203:1,6 203:12 practice 48:4 204:12,15 precleaned 113:2 predisposition 205:16,22 206:6 pregnant 58:6 preliminary 197:9 preparation 137:15 139:18 171:15,17 202:19 preparative 123:2 prepare 85:5 prepared 22:12 22:20 38:15 89:21 102:10 156:10 preparing 171:18 presence 5:9 50:12 69:3 86:11,17	132:14,23 143:11 present 25:13 53:22 56:16 87:6,17 122:12 127:3 173:17 175:13 197:17 presented 190:22 preserve 107:4 president 140:2 pressure 20:7 104:11,17,17 105:3,5 106:10 111:2 114:1,24 115:24 pressurize 104:12 presumably 140:10 presumption 54:8 pretty 159:17 183:6 184:12 201:18 previous 159:3 189:14 previously 20:4 82:7,14 105:17 114:7 171:20 177:9 primarily 11:20 135:7 primary 15:22 33:20 34:13 58:3,17 153:14 prime 192:14 principle 198:1 198:2 printout 5:16 154:3,13 prior 198:15 probably 7:9 14:1 20:21 31:2,17 34:15 37:20 40:19	43:8 46:12,13 51:24 52:4 68:11,16 100:2 126:5 129:22 130:18 140:20 147:19 158:5 162:16 167:23 168:22 179:18 179:19 180:19 198:20 problem 15:10 66:19 78:9,11 92:7 103:7 procedure 45:18 106:21 142:1 proceed 67:14 132:6 process 40:4,6 40:10,19 54:17 106:22 192:3 produced 136:14 products 65:3 150:2 161:5,7 161:11 166:11 professor 27:1 prognostic 203:2 project 141:19 141:20 prominent 52:1 proper 12:3 122:10 208:13 properly 8:6 16:6 54:11,15 106:3 proportion 75:20 proportions 12:4 125:13,14 proposing 146:1 propounded 213:5 prosthetic 59:15 protein 100:24 protocol 112:16
---	---	---	--	--

112:21 protocols 89:24 prove 132:18 proven 72:1 77:9,15,17 provide 12:16 18:12 34:20,22 42:13 124:23 181:3 provided 14:7,7 18:17 19:23 24:20 110:2 118:7 122:18 167:6 187:21 providing 65:12 88:10,15 172:14 psammoma 94:23 95:1,3,7 95:10,12 public 1:20 5:7 6:18,21 26:11 27:9,15 28:6 210:4,21 213:19 publication 84:6 110:20 192:12 publications 31:3,15,20 84:3 189:14 published 60:10 68:4,10 77:12 83:24 84:18 102:14 164:19 169:19 179:16 180:3,15 189:8 189:22 191:17 197:10,11 pull 122:20 pulmonary 15:11,12,14,19 15:22 16:14 27:4,17,20,24 46:22,24 47:1 pulmonology 204:12	purchase 141:18 141:21 purchased 116:6 pure 160:22 purpose 79:4 190:15 pursuant 25:19 put 13:5,10,22 20:3,4,8 22:7 24:5 30:17,18 45:14 54:10 63:12 96:2,3 96:11,22 97:1 103:13,16,18 103:20 104:9,9 105:7,14,20,21 106:6,8,9 108:7,10,15 118:15,18 129:8 160:7 167:14 168:19 182:19 183:3 187:17 puts 148:17 putting 22:4 54:11 105:24 107:22 115:10 <hr/> Q <hr/> qualified 180:2 qualitative 173:7 quality 111:10 111:11 185:8 quantification 199:14 quantified 56:23 57:7 188:12 189:1 quantify 118:16 188:4 197:4 quantifying 194:14,19 197:16 quantitative 78:21 173:7	quantity 189:17 quasigovernm... 146:18 165:14 question 8:3,5 46:14,15 57:2 60:21 63:8 66:16 87:8 90:11,14 106:15 108:22 126:17 132:19 133:19 141:4 156:2 162:22 163:6 167:11 175:22,22 191:23 192:1 192:10,16,19 193:12 195:10 198:21 202:14 questionable 159:5 questioning 179:10 questionnaire 189:20 questionnaires 189:10 questions 7:23 33:2 78:16 142:19 181:7 188:17,23 189:4 190:3,9 198:10 204:5 208:19 209:21 213:5 queue 39:12 quick 25:11 45:19 78:7 quickly 31:3 quit 109:7 166:18 quite 60:16 74:15,18 104:24 117:4 118:19 127:16 131:4 167:24 201:1	quoting 82:14 <hr/> R <hr/> r 2:3 6:1 212:1,1 raise 104:17 randomly 188:13 range 125:15 179:6 187:13 201:15,18,24 201:24 202:10 202:11 rate 138:7 ratio 73:17 74:1 74:3,6,9 81:8,9 81:23 83:3,4 83:17 84:2 122:10 124:4 124:15 125:17 130:8 200:17 201:22 202:6 raw 150:1 reach 61:19 163:3 reaction 100:22 109:11 read 51:9,9,10 84:22,24 85:1 85:2,10,12 134:21 136:8 144:6,7 169:22 170:16,18,18 170:19,20,23 171:7,9,11,13 171:15,17,20 171:22,24 202:23 203:8 211:3 213:3 reading 83:23 145:2 202:24 203:5 readout 81:14 reads 134:19 ready 67:14 132:6 192:12 real 78:7	realize 35:16 100:3 146:12 really 47:14 52:1 55:2 59:2 61:13,21 62:14 66:13 79:20 94:18 100:1 117:4 119:21 119:21 121:16 129:5 141:4 170:16 realtime 210:22 reask 142:18 reason 22:8 64:6 70:21 71:11,21 87:8 96:11 107:10 108:16 111:17,22 115:11 120:10 133:11 211:5 212:5,7,9,11 212:13,15,17 212:19,21,23 reasonable 86:9 132:11,20 144:22 reasons 64:4 70:19 107:23 108:1 114:21 recall 11:12 17:15,17 38:16 44:8 53:15 74:24 85:8,9 121:2 143:8 159:9 169:14 174:22,23 178:24 187:8 200:5,9 202:1 202:24 203:5 203:11 204:23 208:8 209:1 receipt 102:9 211:13 receive 41:2 received 18:17 18:18 101:24
---	---	--	---	--

112:5 recess 67:10 78:13 131:14 166:20 recognized 88:20 165:18 recollection 18:1 35:14 174:14 record 6:9 8:20 22:16 25:12 37:4,6 81:21 93:21 106:15 109:21 166:19 166:23 167:14 184:23 210:10 records 26:7 49:5,9,13,19 50:1 188:11 189:1 red 100:7,11,19 100:21 redirect 208:22 redirected 160:1 reduced 210:9 rees 3:3 refer 80:23 177:4 reference 68:19 86:8 145:14 173:12 199:19 referenced 31:21 referred 19:18 78:18 118:5 125:8,10 referring 55:12 57:5,18 60:9 64:13 69:21 98:12 126:18 169:5 185:11 197:18 reflection 114:23 refrindex 97:14 refrindex 97:10	98:2 regard 16:18 26:3 36:9 37:1 38:3 41:9,11 41:19 53:9,20 60:21 67:24 120:17 125:2 125:19 134:17 136:16 138:17 142:13 145:4 145:13 151:6 155:19 156:22 164:7 191:23 199:24 200:14 200:18 202:7 regarding 7:24 25:16 26:8 33:23 34:4 36:5 42:1 48:10 60:10 81:5 84:19 131:3 145:16 145:20 149:10 149:11 150:6 153:19 167:7 167:11 179:15 regional 61:6 regularly 75:9 75:20,24 76:11 reject 134:22 relate 31:21 96:6 195:23 related 15:13,15 32:23,24 33:2 171:3 194:16 194:23 203:9 210:12 relating 8:14 197:22 relationship 47:1 64:5,7,9 70:18 71:13 73:2,4 77:8,14 77:16 129:10 142:15 165:16 187:18 194:9	198:8 203:16 relative 71:2,9 179:3,6 210:14 relatively 45:19 45:22 70:23 71:8,10 124:14 release 39:19 relevant 106:17 193:14 relying 135:7 remainder 7:10 remaining 167:13 remember 18:7 46:15 175:11 176:12 187:4 remnants 95:7 remove 42:8 113:5 114:7 rendered 8:1 renovated 111:13 repeatedly 93:15 rephrase 164:11 report 4:17,18 4:20 8:1 9:19 9:21 10:4,6,9 10:13,17,18,24 11:7,12 20:14 24:10,10,13 26:6 34:24 38:14,15,19 39:2 40:2 41:2 42:13 43:14 46:8,9 49:6,14 49:14 50:8,15 50:22 51:14,22 52:14 53:4 69:13 70:11 71:19 80:5,10 85:24 86:4 87:12 88:1,9 91:1 92:2,13 109:21 110:1 112:4 118:5,22	132:11 135:20 135:21,23 139:19,19 167:5 170:12 170:13,20,23 171:5,7 173:11 173:11 174:17 179:11 181:8 185:14 193:2 198:16 reported 1:23 73:5 109:20 117:23 reporter 8:10 reporting 119:24 187:11 reports 19:2 39:6 52:19 77:24 135:24 represent 7:16 151:20 205:1 represents 7:17 request 149:11 167:11 requested 102:2 requesting 39:24,24 requests 111:24 141:12 require 141:17 150:7 required 150:9 reread 85:4 research 26:19 27:3,6,16 28:3 28:7,17 29:4,9 30:3,10,22 79:10,18 respect 53:14 respond 167:15 response 68:8 188:18 responses 27:5 27:17 177:7 responsibilities 26:21	restate 8:5 resulted 207:3 results 150:21 203:12 retained 5:19 7:7 16:21,23 17:2,21 26:2 36:14 37:9 41:23 42:12,22 43:2 44:7,13 44:15,20,23 46:18,20,23 47:10,11,18 173:15 return 211:11 review 169:16 179:23 180:2 180:14 reviewed 26:2,7 49:4 89:3 155:22 169:10 170:8,9,11 202:13,15,17 reviewing 96:14 106:22 187:10 rid 105:16 ridgeland 2:6 right 8:12,22 9:8 9:12 10:23 12:5,19 13:3 14:3,13,18 15:23 17:7 18:14,24 20:22 23:3 25:21 32:13,17 33:17 34:1 39:3,9 40:7,13 41:20 42:18 44:4,6,8 49:18 53:24 70:8,13 71:8 71:19 73:20 74:10 75:3 77:1 78:19 79:1 81:5,18 82:4 85:3 89:10 91:19
--	---	---	---	---

93:9 96:14	193:6,11	130:16 145:5	155:23 157:15	82:18 91:7,9
98:15 101:9	194:12,18	164:6,15	160:4 165:19	92:15,21 93:5
109:19 110:13	198:3	saying 27:13,13	190:9	93:14 95:7
113:2 114:18	role 26:16,22	54:23 70:13	scientifically	97:22,24 98:2
119:1 120:1,4	28:22 86:23	87:9,11 133:11	146:2 198:6	98:4 100:6
121:15 122:8	87:1 159:7,14	134:7 147:10	scientist 26:17	113:14 117:6
130:4,8 134:7	roughly 73:24	162:18 164:2	134:19 172:19	117:13 118:14
134:24 137:3	76:9 128:9	184:13 185:12	scores 79:24	119:9 124:24
137:22 138:17	188:7	185:13	scully 3:3	128:6 129:6,14
138:23 139:4	routes 62:8	says 18:6 19:2,9	sealed 21:17	129:17 135:17
145:23 147:11	64:12	27:15 70:17	22:1 106:7	139:22 142:23
149:4 153:10	routine 111:19	71:2,10,16,18	115:3,10	143:18,21,23
154:24 159:1	193:20	74:13 77:13,16	second 25:11	144:9 145:6
162:18 163:9	routinely 43:9	77:19 78:20	51:3 71:11	152:13 154:21
167:19 169:14	rubber 161:22	79:1 81:8 88:9	72:7 77:6,7	155:6,9 174:20
182:3 187:7	rude 81:20	88:20 117:9	89:2 127:23	175:16 182:7
192:11 198:24	rule 59:10 61:1	118:6,11,22	140:1 166:18	182:22,24
199:3 200:6,15	61:24 63:9	126:8 137:15	196:6 197:15	184:5,11 187:7
201:4,22	66:4,21 67:3	143:12 144:13	secondary	191:3 192:4
205:18 209:6	125:4	146:5 147:15	116:13,17	194:8 202:5
righthand 81:13	ruler 187:17	152:14,19,23	seconds 78:10	seeing 52:6
143:16 144:7,8	rules 7:13	153:4 154:9,10	secretion 101:1	181:23
154:18 198:19	running 138:15	154:21,22	section 74:12	seeking 150:8
rise 103:22		155:4 198:21	90:20 110:16	seen 42:5 54:5
risk 48:11,21	S	scale 96:3,3,5,11	113:23 126:13	55:6 58:1
70:2,12 71:2,9	s 4:12 6:1	187:14	128:15 154:21	66:23 95:8
71:14 150:15	s088716 118:8	scanning 5:2,4	155:4 193:13	131:6,8 142:20
153:2,7,23	s088716n 4:20	20:1 21:11	193:20,24	143:8 174:14
155:5,6,11,15	11:1,7	22:2,18,23	194:2 195:11	178:5 199:19
156:4,7,12,19	sacrificing	88:24 103:18	195:19 197:24	seldom 83:10
156:22,23,24	183:20	103:21 104:4,7	198:5	selected 28:15
157:1,7 158:22	salary 142:5	104:10,20,23	sectioned 114:7	93:16
159:4 179:6	sample 107:4	105:3,22	sectioning	sem 13:9,13 23:5
203:7,14	114:17 128:22	107:11,16,18	194:21	38:6,17 39:12
208:15	182:15 194:8	108:2 111:23	sections 20:4	39:14 40:9,16
risks 179:3	195:17	112:2 116:10	102:15 105:19	41:15 102:10
rivers 17:10	samples 160:12	116:12 118:14	114:13,14,14	105:1 110:5
rmr 1:24 210:3	174:9	129:1,16	126:11 194:13	111:3,18 117:9
rochester	sampling 197:5	scattered 94:15	see 9:10 24:11	117:15 129:4
177:10	sand 121:19	school 1:20 5:7	33:6,6 41:3	137:16 163:20
roggli 126:12,19	sarcoidosis	6:18,20 26:11	45:15 52:23	163:23 164:14
127:8,24	108:22 109:6	26:18,19 27:8	55:1,4,9 57:11	182:16 183:9
129:10 130:10	109:11	27:15 28:6	57:11,13,16	183:21 191:5
130:14,22	sat 170:8	science 91:12	58:13,16,24	send 19:19
142:12 192:20	save 174:7	scientific 32:24	61:8,9,14	101:21 109:16
192:21,22,24	saw 51:20 66:14	33:2 135:13	72:21 73:3,4	140:3

seniority 140:18 142:5	shouldnt 121:6	74:14 123:10	124:20 125:10	41:23 78:7,10
sense 166:5	show 93:4,21	123:23 124:3,8	130:17 138:3	130:9 131:13
197:12	97:12 115:15	124:15 133:12	154:8 186:24	135:3 145:24
sent 18:18	152:7 154:8	166:3,4,6	194:1	146:20 149:17
sentence 69:24	168:23 186:1	175:14	size 62:4 96:2,6	155:20 156:13
70:17 77:23	203:16,16	silicates 163:5	128:9 163:2	157:11,18
86:7 88:19	207:24	silicon 12:3 72:9	186:7,11,20,23	158:3,7 163:6
143:10 144:10	showed 72:9	73:23 80:16	187:12	167:16 175:21
152:22	177:11	81:9,15,15,22	sizes 187:4	178:10 187:6
separate 22:9	showing 84:6	82:2 83:17	skin 29:19 122:5	192:22 193:8
23:19,20	119:8 185:19	84:2 103:14	122:7	196:19 197:21
separated 22:10	196:8	121:4,6 122:10	skip 53:6 78:6	204:4,7,9
separately 22:6	shown 93:9	125:12 200:14	88:3 167:24	205:11,17
sepiolite 165:23	175:7 183:5	200:22 202:6	skipping 136:5	206:3,11,24
166:8	shows 92:3	silva 140:4	slice 102:24	207:7,20 208:4
serial 194:13,21	93:12,16 151:2	simg05 200:4	103:11 128:12	208:19,24
series 56:19	177:7	similar 7:8 38:9	129:8	smithlaw 2:8
191:17	side 81:13	60:4 74:14	slide 49:17 99:8	smoker 61:8
serous 51:16	sidebar 175:21	85:23 117:16	99:9 103:13,14	sodium 119:4
52:3,11,12	sign 211:8	124:14 126:21	128:4,15,20,21	123:12,14,24
93:3 94:24	signal 11:22	140:8 166:5	129:13 181:15	software 82:20
services 112:2	12:1,2 72:21	184:13 185:5	182:1,6,15,19	115:19,21
session 132:1	73:8 103:15	similarly 184:10	182:19 184:9	186:16 198:22
set 24:3 97:7	123:10,14,15	simple 90:5	185:1	sold 111:12
118:3 210:18	123:23,24	91:10 140:14	slides 18:17 19:3	solely 26:22
setting 108:4	124:4,6,8,10	simpler 22:8	19:8,10,19,21	solid 93:6
seven 138:3	124:11,15,16	simply 91:5	38:1 41:2,3,7	solubilized
144:10 155:6	185:4	181:15	43:15 89:4,8	62:23
sexual 65:17	signature 72:10	single 23:18	89:10,16,20	somebody 12:16
shadows 185:7	83:19	sir 12:6 14:4	90:6,10,15	30:18 79:7
shallow 129:1,6	signed 189:9	38:22 131:13	91:2 93:14	141:13
shaun 26:8 89:5	significance	170:14	99:6 101:14	somewhat 98:1
shb 2:23	23:19 52:10,10	sit 30:20 160:8	128:1,2 181:13	soot 16:6
sheet 18:16	99:11 100:18	179:20	183:1,4 191:10	sorry 50:24
211:6,9,12	100:20 194:9	site 61:19	slight 73:8	57:19 81:20
213:6	significant	133:17 135:15	small 73:9 93:13	97:17 98:8
sheets 96:23	51:13 65:11	154:1	113:15 126:9	164:10 184:18
shelburne	71:9 118:20	sitting 140:10	128:22 129:19	184:22 185:9
102:18	128:10 131:10	situation 39:15	194:10 195:17	186:10 188:8
shelton 2:11	145:9 160:6	67:22	195:17 201:12	191:14 194:17
shines 91:6	198:1	situations 198:6	smaller 98:4,16	sort 39:11 41:19
shook 2:18	significantly	six 10:19 11:19	168:19 169:1	61:12 79:9
short 45:22	127:19	36:23 37:19	smith 2:3,4 4:7	82:19 92:10
133:2	silica 73:3,17	38:3,17,24	34:20 36:10,14	94:11 95:5,8
shorter 133:3	120:7	53:15,19,20	36:15,17,19	97:3 98:3
	silicate 73:1	81:1 123:6	37:4 38:18	115:7 141:5

185:7 sought 88:21 sound 44:8 50:14 82:3 159:9 sounds 182:18 source 66:1,5,22 79:18 207:10 sources 50:2 76:16 89:17 202:2 souvenir 152:10 space 92:19 99:20 117:13 117:14,16 211:6 specialize 32:6 specific 75:19 124:20 168:9 168:17 171:22 182:15 188:17 specifically 11:13 20:18 27:15 30:11 84:15 125:21 153:3 161:19 162:7 172:16 173:20 174:23 178:20 206:5 206:16 specimen 103:22 104:12,14,16 104:18 specimens 20:16 106:2 165:6 spectra 25:7,8 72:22 spectroscopy 72:9 111:16 spectrum 11:14 56:24 57:5 72:13,16 73:9 73:16 80:7,14 81:4,13 83:18 83:23 95:11,12 117:19,19,22	123:9 198:15 198:21 spend 61:21 spent 37:15 138:10,12 sperm 58:6 spleen 51:18 89:13 sporadic 154:24 spot 113:14 117:5 160:8 spread 51:17 58:14 sputter 114:17 square 128:7 ss 210:2 st 2:13 4:18 10:10,13 26:6 89:5,21 110:2 112:9 stage 25:9 56:11 stained 91:8 stand 199:5 standard 96:21 112:16 141:24 standpoint 45:5 51:11 86:5 start 51:7 75:23 97:4 99:18 143:18 194:24 started 13:24 79:7,10 102:24 191:2 196:21 197:2 starting 144:10 192:4 state 6:8 26:15 75:13 166:22 211:5 stated 71:11 132:11 137:10 statement 48:9 127:7 144:22 159:17 statements 77:4 states 1:1	statistical 172:20 statistics 172:20 status 149:19 step 40:4,5 105:9 115:14 133:16 196:6 steps 123:3 stick 21:21 44:13 sticker 21:21 23:12 144:1 sticking 184:15 stop 82:5 109:1 stopped 62:20 straight 97:9 street 2:20 193:16 strength 134:16 179:15 180:24 181:3 strengthens 133:18 stretch 67:7 stripe 94:2 stroma 92:9 94:6 strong 87:4 123:23 strongly 169:3 structural 127:18 structurally 74:15,18 127:16 131:3 structure 97:12 117:2 students 26:20 studied 5:2,4 20:1 21:11 22:2,11,13,18 22:20,21,23 23:5,23 64:8 118:7,11 119:17 126:14 129:19 130:4	189:8 studies 23:24 24:11 27:24 32:21 37:22 43:18 55:8,11 55:17 59:14 70:1,11 71:15 84:18 85:17,22 87:23 101:16 106:6,11,12 109:14,17 118:11,14 126:10 127:8 127:22 130:15 134:17 146:12 146:15 150:22 151:1,2 158:11 159:6,18 162:13,23 163:7,8,19 165:11 168:12 168:18,19,21 168:22 169:2,4 169:11,17,18 169:23 170:1,3 173:9 176:22 178:15,16,19 178:22 181:1,4 188:12 189:9 192:24 194:23 194:24 195:3,8 195:14 203:15 207:24 208:10 study 19:24 37:24 63:21 76:2,10 77:4 79:7 85:15 90:18 101:13 110:5,22 118:22 119:6 126:19,23,23 127:24 129:10 130:7,10 131:2 137:16 142:12 159:2,13 164:19,23	165:1 182:22 188:22 190:8 190:10,16,23 191:4,7,9,13 191:21 192:3 193:6,11,18 196:8,21,23,24 198:3 203:9 studying 60:13 stuff 51:5 submicron 187:13 submitted 56:13 subscribed 213:15 subsequent 70:1 70:11 subsequently 182:21 subset 85:1 substance 131:3 177:21 200:19 213:5 substances 199:24 substantial 126:16 127:2 193:4 194:4 substrate 182:20 183:3 sufficient 148:5 148:7 suffolk 210:2 suggest 159:6,17 193:17 suggesting 90:19 159:13 196:5 suit 121:20 suite 2:5 3:4 summary 10:16 71:2 152:23 superficially 129:9 supervision 138:13 supply 95:5
--	---	---	---	---

support 65:14 79:18 133:13 141:14 169:2,3 170:2 172:15 supported 159:2 supports 86:22 132:18 133:15 158:17 169:6 suppose 135:6 sure 8:1,5,8 23:7 30:12,13,14 36:2 41:5 81:21 83:12 84:15 88:2 90:18 93:22 106:3 117:17 118:6,12 125:10 140:13 141:13 158:7 163:20 165:2 166:12 168:3 174:21 198:14 surface 20:12 58:20,21 89:12 90:23 92:18 99:21 105:15 113:6 114:8 116:14 surfaces 113:2 surgery 10:7 surprised 41:7 surprising 159:18 186:5 surprisingly 121:8 surrounding 16:20 73:10 100:1 145:7,11 survey 149:24 150:3 suspect 38:10 swallowed 62:11 sworn 6:4 210:7 213:15 system 59:19 104:11 113:16	113:17 115:24 116:2,3,3 140:13,17 systematic 179:23 180:2 180:14 systemic 27:4,17 systems 210:22 T t 4:12 212:1 tablets 161:12 take 4:15 8:10 9:16 20:19 25:10 45:9,20 50:18 61:19 67:6 78:10,11 80:8 90:17 103:17 105:12 105:15 106:1 107:7 114:13 131:12 138:18 156:16 182:15 182:18,19 186:7,11 198:11 taken 8:9 49:17 67:10,13 78:13 95:20 131:15 132:5 166:20 168:20 169:16 172:19 185:13 takes 38:1 39:21 82:10,21 83:14 96:20 talc 5:9,10,12 11:20,22 12:1 12:2 35:23 36:6 42:1,10 42:13 48:18 50:10,12 53:4 53:9,11,16,19 54:2,6,7,22 55:3,4,6,10,20 56:21,23 57:6 57:9,11,17	58:2 59:5,8,12 60:23 61:14 62:1 63:10,14 63:19,21 64:9 64:11,11 65:4 65:13,16,19,23 66:3,5,14,22 67:2 69:3,6,17 70:1,12 71:23 72:10,24 73:5 73:11 74:7,10 74:13,18 75:5 75:9,11,15,16 75:21,22 76:1 76:2,5,6,11,12 76:13,16,24 77:9,15,17 78:22,24 80:15 81:1,9 83:7,19 83:22 84:2,7 84:11,19 86:10 86:12,17,21 87:6,9,17 101:15 102:3 112:13 115:12 117:10,22 118:1 120:10 120:15 121:5 121:23 122:11 123:5,6,14 124:20 125:4 125:13,20 127:3,16 130:23 131:4,8 132:12,14,17 132:22,23 133:14,15,17 135:17 142:16 142:21 143:3 143:11,12,18 144:10,13,18 145:4,17,20,21 146:9 149:11 150:1,2,6,14 151:14 153:23 155:11,14	156:3,8,19 157:9,16 158:15,22 159:3,7,14 160:5,16,20,20 160:22 161:1,4 161:19 162:14 162:19,24 164:3 165:2,15 165:20 166:5 167:2 168:23 169:7,11,18 170:4 171:3 173:21 177:14 179:7,16 180:4 180:15 185:4 187:1,2 188:4 188:5,11,14,18 189:1,2,18,24 191:7,8,18 193:4 195:19 196:7,8,13,14 197:16 200:1 200:22 201:10 201:22 202:7 203:10 206:14 206:17 207:3,3 207:10,21 talcum 5:14 152:3,19 153:1 153:6 203:1 talk 11:13 19:5 21:7,8 43:4 47:21 50:22 52:20 63:23 65:1 67:8 69:8 83:21 115:18 119:2 127:22 153:12 169:5 197:14 203:18 203:20 talked 14:19 29:9 42:17 43:7 46:19 66:20 67:16 70:17 76:15	85:10 88:5,14 89:17 101:5 121:15 125:9 127:14 142:15 147:15 163:11 164:24 168:7 192:17 196:24 198:20 talking 24:21 38:16,20 50:21 52:24 54:16 80:7,24 83:11 86:1 97:18,19 100:12 122:21 123:20 128:11 128:15,16 133:20 142:9 184:18,20 185:10,17 189:2 192:20 195:21 198:23 199:8 talks 88:4 125:24 tape 21:17 teach 26:19,20 technical 45:21 technique 20:6 104:2 110:19 126:1,8 tedious 8:18 tell 17:11 18:14 21:24 23:18 36:8 40:18,20 42:16 45:4 51:10 55:2 66:13 72:12,12 72:13 84:10 85:9 95:1 96:8 102:8 116:8 117:10,15 119:19 120:5 139:15 163:14 163:21,24 164:2,16 171:13 183:16
--	---	---	--	--

185:16 206:13 tells 117:11 201:21 tem 111:5 temperature 103:22 ten 126:6 tend 103:6 tens 196:16 term 187:2 termed 94:23 terminology 83:12 terms 10:21 14:20 47:4 54:17 56:20,23 57:6,22 58:19 58:22 65:22 127:19 128:5 129:16 183:21 184:13 186:13 193:2,14 194:6 195:12,20 198:4 200:10 test 43:13 48:15 84:5 85:6 200:7 206:4 tested 205:6 testified 6:5 35:11,12 42:17 42:23 66:9 207:12 testify 15:8,20 42:14 43:18 210:7 testifying 16:17 18:4 testimony 4:22 14:6,10,16 15:4,13,15,21 16:2 17:6,11 43:5,6,20,21 140:11 141:10 142:11 210:10 texas 2:21 3:5 106:1	thackral 110:7,7 110:11 thank 14:4 167:21 thanks 124:1 158:10 thats 6:22 9:9,23 10:24 11:2,3 11:16 12:22 14:17,24 15:4 15:6,24 17:4,8 18:6,24 19:1,4 19:20 21:6 23:6,7,12,15 24:23 26:12 27:2,19,22 28:4 29:1,7,21 30:5 31:11,17 31:23 32:5,8 33:8,11,13,17 33:20 34:2,16 34:23 35:2,4,6 35:10 37:5,13 40:1,12,17 41:4,16,21 45:3,14,17,22 46:10,17 48:1 48:9 49:7,8,12 52:18 53:13 54:24 56:17 59:7 60:18 61:2,18,18,22 64:6 68:1 69:14,20,23 70:14,14,15,20 71:1,7,16,17 71:18 72:2,11 72:23 73:19 74:3,16 75:12 75:17 76:3,14 76:22 77:2,19 78:1 79:1 81:3 81:11 82:1,3 82:12 83:9 84:21 86:14 87:10,19,24	88:13,19 89:7 89:15,19 90:2 90:17 91:20 93:7 94:5,6 96:17,24 97:9 98:13 99:12 103:16 107:1 108:11,15,24 110:10,12,14 110:19,19,24 111:3,20 113:8 113:24 114:11 114:18 115:6 117:1,5,16,21 118:9 119:1,7 119:15 120:4 120:12,13 121:20 124:4,8 124:17,18 125:23 127:1,5 127:12,17 128:13,16,19 129:2,10,20 131:9 133:2 134:1,6,11,14 135:19,20,22 136:3,11,15 137:12,13,19 138:5,8,14,20 138:21,21 139:2 140:5,12 140:20 144:22 146:11 147:6,7 147:17 148:2 148:10 151:3,8 153:4,17 154:15 155:1 155:23 156:14 157:4 159:21 160:8,10,14 167:12,18 168:14 169:9 171:9 172:7,10 172:22 173:2,5 173:10,14,19 175:17 179:13	179:24 180:11 181:14 182:13 182:17 183:8 183:13,19 184:13 185:15 185:21 195:5 197:12,22 198:6,22 200:17 201:4 201:16,21 202:4,16 203:9 203:15,17 204:13 206:2 206:10,18 207:6 208:19 209:6 theory 207:14 theres 8:21 23:17 28:6 29:3,23 30:2 34:12 37:18,22 37:23 46:13 48:16,17 53:1 53:3 54:6 57:23 58:8,14 61:14,23 64:7 64:8 65:15 67:2 68:16 70:4 73:7 80:14 84:15 85:12,13 87:3 87:4,11 90:14 92:9,16 93:5 93:24 94:19,20 98:16,18 100:2 100:7,10,21 108:16 114:21 120:10 121:8 123:17 124:9 125:6 133:13 133:14 135:12 136:9 148:15 148:20 149:1 151:10 158:11 161:21 163:4 169:1 174:21	177:5 181:11 185:4 190:3 192:7 195:3,4 195:5 199:23 203:19 209:7 theyre 23:10 30:17,18 52:19 83:5 99:5 112:10 116:15 120:22 122:17 124:24 148:16 148:24 theyve 54:5 148:23 189:10 thick 129:13 thickness 91:8 128:17,18 thin 102:24 thing 12:15 24:6 61:13 80:18,20 80:21 88:7 98:3 99:19,22 105:2 115:2 122:18 128:13 132:8 146:4,16 199:22 things 7:14,15 25:23,23 41:10 53:7 58:12 60:4 93:21 103:7 112:3 124:10,12 136:4 144:5 161:18 168:5 175:20 178:17 202:23 208:14 think 18:5 25:15 26:4 28:11 31:4 38:12 44:3 46:18 50:9 51:3 58:2 58:11 65:20 85:18 88:14 91:3 100:4,20 119:14 121:16 128:19 129:21
--	--	---	--	---

132:19,20	37:15 38:8	119:5 121:7	titled 4:19 5:8	translated 128:5
133:19 134:12	39:1,4,20,21	123:7,8 126:9	5:11,13,16	transmigrate
136:4 138:20	41:13 45:19,21	126:11,13,14	11:6 69:2	207:22
139:3 144:6,24	52:21 54:4,10	126:15,18,24	143:2 152:2	transmission
145:15,16	54:20 60:14	127:20 128:2,3	154:3	107:17 111:5
146:8 147:2	61:20 78:12	128:8,12,19,21	today 8:15 25:20	111:19
148:15,15	86:3 119:12,22	128:22 129:6	139:17 160:8	transvaginal
150:24 151:16	131:7 134:20	129:19 130:20	168:7	15:4
152:9 153:15	136:13 138:16	143:11 145:5	told 16:8 44:2	travis 2:20
154:8,17	141:10 167:13	164:22 173:18	52:9 118:2	treat 33:3,5
157:22 158:5	169:16 181:21	174:4,9,20	202:12	47:24
158:21 159:16	188:9 192:14	175:4,10,12,16	toner 144:2,4	treated 33:9
160:9 162:21	193:6 198:11	176:3,13,14	top 99:16 145:7	140:24
163:9 166:17	204:3 206:16	182:2,3,19	topic 142:3	treating 7:11,12
169:24 170:1,9	206:20	183:11,23,24	181:1	18:1 43:12,16
170:15,16	timeconsuming	185:3,8 186:4	torturing 191:14	43:21 44:10
174:15,18	39:20	186:9,12 188:5	total 37:11,15	47:9,15 107:11
183:14 186:22	times 32:16	189:10 192:4	44:3 45:19	107:23 108:1
190:13 191:15	46:11 68:19	193:5,13 194:1	56:5 118:23	treatment 5:16
191:22 192:2	73:5 85:2	194:2,8,20	136:9 137:11	154:4
194:5 200:4,5	93:20 96:9	195:1,2,12,15	139:20 164:9	trees 16:8
202:9 203:8,17	99:1 113:4	195:18,21,23	totally 132:10	trends 159:5
thinking 52:22	125:8	196:1,9,13,15	146:6	trial 86:4 140:10
78:5	tiny 129:24	197:7,17,24	touch 21:20	tried 79:20
third 71:21 80:9	130:4	204:17 206:14	tower 2:19	true 31:7,12,18
85:21	tissue 29:16,17	207:4 208:8	towne 2:5	60:18 128:10
thirty 211:13	29:18 33:7	tissues 29:18,20	toxic 178:22	129:7 131:5
thoracic 108:19	43:10 49:17	56:21 59:2,17	toxicology	157:4 210:10
thought 60:22	51:23 61:9	60:13,14 61:17	169:11	truth 210:8
80:22 95:3,11	66:4 67:19	75:8 86:21	traceable 59:21	try 7:4 44:21
101:14 174:10	72:23 81:2	88:23 108:17	tracing 62:14	66:17 93:20
177:9 188:3	87:7 90:6,13	119:3 120:10	tract 62:12 63:5	trying 39:16
201:9	90:13,14,21,22	121:9 143:13	train 201:9	47:7 48:15
thousands 196:2	91:7 92:8,19	143:19 144:14	trained 172:21	53:7 56:24
196:16	92:22 94:6,16	144:20 163:17	training 172:8	59:2 79:3
thousandth	95:9 97:12	165:3 178:9	172:11,17	87:14 98:9
195:22	99:15,17,18,20	206:17	181:2	101:20 116:22
three 4:21 12:12	99:24 100:1,21	titanium 59:15	transcript	130:3,6 135:6
13:1,4 14:1,1	100:22 101:3	59:16 120:7	211:14,15	137:21 142:2,3
14:15,15 35:8	102:9 103:5	174:8,19,23	transcription	174:22 191:12
85:19 98:18,19	104:10 105:7	175:2,3,5,6	213:4	191:18 195:10
113:4 138:19	105:17,20	176:11,12,14	transferred	199:20 200:7
160:6	106:22 107:13	176:17,21	19:11,11	200:10 201:19
tight 72:19	108:3 109:8	177:7,11 178:3	102:21	202:1
time 13:10,23	110:9,15,17	178:7 208:6,11	transferring	tube 51:16 55:7
17:15 35:3,9	113:6 117:10	title 26:24	103:12	58:1

tubes 57:12 89:11 tumor 34:10 52:2 58:14,15 58:16,18,18 92:9,10,14,16 92:17 93:1,7 93:12 94:7,9 94:20 95:4,15 95:16 101:1 117:15 133:7,9 133:12,22,24 134:4,5 135:15 135:18 143:13 143:14,19,20 144:14,15,19 144:20,21 163:23,24 181:16,18 183:18 184:9 193:7 tumors 143:12 turn 96:21 97:5 turned 13:3 turns 73:7 twice 32:12 two 12:14 32:16 38:2 56:24 57:4 78:10 83:5 88:7 90:17 96:23 98:9 99:5 114:21 137:10 137:16 138:18 138:19 151:1 154:10 165:9 181:12 twothirds 7:9 44:7 type 95:20 119:6 130:22 139:15 164:21 182:22 types 121:2 204:16 typewriting 210:9	typical 52:18 93:3 116:11 typically 33:24 34:5 52:19 91:22 108:23 <hr/> U ultimately 61:19 ultrafine 177:11 unaware 156:17 unclear 202:14 undergoes 95:4 understand 7:19 8:2,3 11:10 14:19 40:7 49:24 51:10 54:19 59:3 60:20 88:2 102:8 106:18 107:2 127:6 130:2 140:14 142:4 147:14 148:1 167:1 168:3 176:4 188:10 191:15 198:15 understanding 38:4 51:12 57:1 60:6 87:20 89:20 148:9 understood 18:13 30:1,1 unheard 104:15 uninterpretable 103:3 united 1:1 universally 143:14,20 144:15,21 university 6:18 140:3 unknown 48:8 unpublished 197:19 unreadable	143:23 unusual 34:10 updated 115:21 116:5 upper 81:13 99:23 100:14 100:15 152:13 154:18 198:19 uppers 100:13 use 20:6 27:24 54:6,7 56:23 57:1,7 64:9,11 64:11 65:16,16 66:5,22 67:2 69:17 70:1,12 71:14 75:16 76:4,6 77:9,15 77:17 78:24 93:7,7 96:4 107:17,20 111:17 113:20 114:9 116:11 153:1,23 155:11,14 156:3,8 169:7 171:3 172:20 188:4,14,19 189:2,24 191:7 191:8,18 203:6 203:12 207:2,9 uses 107:20 usually 37:23,24 39:23 63:1 91:6 96:1,21 109:20 114:11 114:13 122:12 141:17,18 uterus 55:6 57:12 58:1,8 89:11 utilize 107:11 114:1 utilized 65:21 115:18 utilizing 95:21	<hr/> V v 1:8 vacuum 104:19 115:4 vagina 58:21 65:17 vague 17:24 validity 134:16 179:16 180:24 181:4 vaporize 103:23 vaporizing 20:10 variable 20:6 105:3,5 106:10 111:2 115:24 variety 120:20 161:5 various 25:6 85:2 124:22 156:23 176:22 181:20 verification 196:6 verify 194:12,18 versus 15:2 16:1 17:1,6,10 47:18 vessel 92:24 183:17 vett 54:8,12 54:15 vetting 54:15,17 view 118:19 131:10 157:23 168:22 visible 52:7 113:20 vitae 4:14 8:24 volume 126:9 128:21 194:20 <hr/> W w 2:10 wafer 129:8 wait 120:24	167:16 walk 88:1 walking 193:16 want 13:1 21:18 22:6 24:3 61:13 80:7,8 88:1 101:21 104:1 118:6,12 118:17,18 119:13 124:24 125:10 127:6 131:11 140:21 142:10,18 143:9 145:2 158:8 166:22 168:4 184:19 192:6 194:17 198:11 wanted 23:7 29:8 158:7 168:5 wanting 63:21 wants 24:19 106:13 warn 151:14 warning 150:7 150:10 warnings 149:11 wash 114:15 washed 113:21 113:23 washing 113:4 wasnt 15:20 22:12 23:23 80:1 104:13,24 136:2 165:7 171:21 177:8 water 113:5,9 114:16 126:2 way 8:19 29:19 57:1 58:3 61:23 63:9 65:9 86:15 96:24 102:17 102:17,20
---	--	--	---	---

105:6 111:3 120:12 127:21 137:6 188:20 ways 58:23 59:4 weak 70:23 71:8 71:10 124:9,14 wear 60:1 website 5:7,17 27:9,14 41:24 42:8 153:18 154:5,14 155:13,24 156:6,20 157:5 wed 61:22 wednesday 1:16 weekly 141:12 wegeners 15:18 weighing 194:6 weight 82:10,11 82:16,23 83:4 83:11,13,14,16 84:2 125:16 128:19 194:4 199:11,16,17 199:20 welch 32:22 55:18 wellqualified 15:19 wellstudied 58:11 went 171:22 western 5:14 151:18,21 152:4,14 153:10 wet 104:10,14 weve 20:11,13 23:11 24:22 31:4,20,24 35:1 37:19 38:12 42:16 46:19 58:1,13 61:12 66:12,20 66:24 67:5,13 76:15 79:20,22	85:10 86:1,8 88:5 89:17 93:22 103:7 105:19 106:5 111:18 117:22 119:17,19 124:19 129:18 129:24 130:3 132:5 151:16 172:2 191:1,2 196:21 197:13 whats 7:20 29:2 41:8 45:11 52:10,17 82:12 86:20 116:13 130:12 141:23 166:1 167:4 195:12,18 199:9 whereof 210:17 white 94:11 100:6 wife 66:9 william 2:10 window 18:11 wire 108:7,10,12 108:14 wish 167:15 witness 5:19 7:7 36:21 37:10 187:10 210:11 210:17 211:1 wolfgang 62:13 woman 5:9 33:9 69:4 womans 48:21 189:2 women 58:5,7 75:9,20,22,24 76:4,5,11,20 76:23 78:22 womens 5:16 6:16 29:15 33:19,21 34:13 48:4 107:15 111:21 153:16	153:19 154:4 154:14 155:18 156:11,18 wont 93:21 204:7 word 74:24 75:1 words 28:10,14 28:15 113:18 work 12:8 13:9 13:13 26:13 35:15,20,21,22 64:14,15 79:4 85:12 103:4 109:2 117:7 119:23 137:12 137:13,18 138:21,22,22 139:8,12,16 140:8,9,16,22 141:7,20,20 172:13,21 174:5 189:22 working 36:4 39:6 41:23 72:6 109:4 140:6 172:14 189:19 191:22 works 116:23 workup 45:23 world 33:14 worthy 134:23 135:1 wouldnt 13:6 39:1,3 54:14 65:11 113:20 115:13 140:21 156:8 181:2 205:8,12 write 92:6 writing 34:24 56:8 written 155:21 158:19 wrong 26:15 40:8 83:12 145:22 146:6,9	146:10 wrote 60:15 74:17 75:3 77:5 171:5 <hr/> X <hr/> x 4:12 127:20 xray 72:8,16 89:1 <hr/> Y <hr/> yardley 155:22 yeah 18:7 35:18 44:5,12 48:12 56:4,12 60:12 63:18 64:18 79:6 84:3 94:3 114:19 115:20 115:23 121:4 122:3 138:11 146:15 160:23 161:3 187:3 200:20 201:5 202:8,11 203:15 209:11 year 14:22 32:12 32:16 116:6 150:12 years 32:15 44:24 65:4 66:10 79:13,15 79:19 103:9 111:13 169:19 171:24 176:23 180:3,15,24 yep 68:13 120:19 161:10 187:23 199:4 yesterday 144:2 youd 20:21 61:8 63:13 78:3 146:2 youll 24:11 61:16,17 62:23 82:18 139:17 youre 13:3 24:4	24:21 27:13 28:2 30:13,20 31:24 32:3,9 33:12,15 34:4 34:16 35:3 40:10 41:7 43:1 45:14 47:8,9 51:12 52:24 54:23 56:2,11 57:2 57:18 64:13 67:17 68:2 69:21 74:6 79:5 83:1,4,11 83:23 87:9,14 87:20 88:15 91:10 97:3,7 97:17 100:11 107:23 116:20 116:22 123:20 128:14,16 130:3,6 131:2 133:4 134:7,13 134:15,24 135:1,7 139:24 144:23 146:1 147:10,11 162:18 163:22 164:1,2 171:10 172:22 174:5 176:5 180:7 181:15,23 182:23 183:7 184:18,19 185:6,9,12 190:16 192:2,5 195:2 196:12 196:14 197:18 200:17 207:1 207:21 youve 7:7 8:1 31:8 32:11 33:9 34:19 36:5,9 37:1 38:17 39:7 41:22,22,24
--	---	--	---	--

44:2,15,19 47:23 52:9 55:19 63:24 66:22 70:14 80:15 89:3,9 91:18 106:24 110:23 127:7 141:8 145:15 168:1 170:6 175:22 179:10 180:6 186:24 198:10	200:15 201:7,7 201:7,9,9,14 100 56:5 126:15 126:17 130:15 130:16 137:17 11 4:20 5:2,19 21:11,23 22:17 81:24 82:19 136:8,14 200:14 201:14 209:23 110 2:12 11to10 125:16 12 4:21 5:4,19 22:5,23 23:4 23:11 73:22 74:3 75:9,10 75:24 76:4 131:15 138:20 13 5:5 24:22 25:2,6 166:21 187:22 14 4:22 5:7 27:8 140 120:1,17 125:19 160:12 160:19 164:8,9 143 5:12 149108 210:23 14cv00213rlw 1:8 15 4:18,23,24 5:1,8 10:14 18:21 19:14 20:24 37:21 39:7,14 40:9 47:15,17 68:22 69:2 1510 3:4 152 5:15 154 5:17 16 5:11 143:2 167 4:5 17 5:13 152:2,8 166:21 18 4:23 5:16 154:3,12	19 4:24 1971 142:21 198 4:6 1982 69:19,21 1990 60:10,15 1997 158:19 1999 70:7 1to1 81:24 125:17,18 201:3 1to100 130:8	137:9 202:24 210:6,18 204 4:7 208 4:8 209 4:9 20x 95:24,24 96:9 21 4:23 5:3 18:21 22 5:4 132:2 23 137:9 24 67:11 165:5 25 5:6 66:10 67:6 25th 9:7 27 5:7 136:10,16 140:24 271 143:10,16 144:7 27th 1:16 210:5 29 5:1 20:24 2b 72:14 147:4,5 147:15 148:2 177:14 178:3 2by2 128:7	33 11:22 74:3 122:8 200:23 360 198:22 368 118:23 119:18 124:24 39 53:17 160:19 39157 2:6 3micron 114:13
Z ziploc 23:12,17 23:20 112:5,8 112:10,13 zyse 111:12 115:23		2 2 4:15 9:15 48:16 81:24 97:18,19,21 99:3,13 114:13 115:19 117:17 118:4 129:4,15 154:9,18 166:21,21 181:12 182:1,5 182:10 184:3 184:20,21 185:1,6,14,23 185:24 200:14 201:7,9,14 208:24 209:3 20 4:24 5:1 7:3 19:14 44:4,7 68:16,17 168:22 170:1 194:7 213:16 200 96:1 2007 31:5,9,13 31:20 68:21 78:17 79:10 200x 96:1,8 2010 85:13 158:17 2011 14:14 17:11 18:10 2014 203:5 2015 1:16 4:16 4:20 9:24 10:3 11:7 14:14	4 4 1:8 4:18,18,20 4:24 5:1 10:11 10:12,14 11:7 19:14 20:24 26:5 49:6 51:2 80:24 114:12 117:9,20 128:17 139:4 154:10,18 160:16,24,24 183:9 40 49:22 50:6 56:1 160:17,18 400 35:5 137:11 138:2,3,6,21 400x 98:23 40x 98:24 46 78:14 499 72:8 74:13 4microns 129:13	
0 00 1:17 210:6 000 35:19 130:19 141:18 141:19 04 82:3 07 131:15		3 3 4:16,16 9:24 10:1,2,3 71:3,9 80:4,9 86:1 115:19 125:17 125:18 129:23 141:18 154:17 181:9 198:17 209:23 30 40:14,20 41:9 41:12 68:16,17 169:19 180:3 180:15 211:13 300 24:12,16 136:8,14 30plus 180:24 31 67:11 3149639000 2:14 32 19:19 89:8	5 5 4:19 11:3,5 75:9,24 80:14 81:4,8 117:19 123:1,2 141:19 167:7 185:11 185:18,21 50 36:11,13,22 37:11,15 40:14 41:18 56:1,2 76:9 78:14 187:15 190:14 500 74:22 77:6 78:17 5123910197 3:6	
1 1 4:14,18,20,23 8:23 9:3 10:14 11:7 18:21 71:3,9 74:3,9,9 82:3 89:3 92:2 93:24 95:17 99:4,8 132:2 154:9,10 181:12 184:8,8 186:3,3 187:16 200:23 201:3 202:10,10,10 10 4:17,18 5:1 20:24 21:3 47:15,17 67:11 67:11 78:14,14 81:24 96:1,9,9 99:1 194:7				

Confidential - John J. Godleski, M.D.

Page 247

6	90s 111:11			
64:4,21 12:10				
12:11,20 13:3				
13:8,23 75:9				
76:7,8 130:19				
136:6 140:1				
160:20 201:7,9				
201:17				
600 2:20 136:10				
136:16 140:24				
6019521422 2:7				
60s 91:12				
63119 2:13				
665 1:20 6:13,19				
681 2:5				
69 5:10				
7				
74:22 14:9,13				
35:18 81:24				
200:15 201:14				
201:17,17				
7132278008				
2:22				
77002 2:21				
78701 3:5				
7micron 114:12				
114:14 129:8				
7microns 128:17				
7th 210:18				
8				
8 4:14,23 18:20				
18:24 35:19				
82:19 185:11				
201:17				
800 137:11				
139:4				
816 3:4				
8716n 99:9				
8716r 99:8				
9				
9 1:17 4:15,24				
19:13,17 73:22				
74:3 210:6				